# Google

*PEX & BC review:*

## Google Distribution on Android Framework
**As presented at BC**

June 2019

**EXHIBIT 624.R**

EXHIBIT 624.R-001

GOOG-PLAY-004488106.R

# Executive Summary - We are fine-tuning Android Search Rev share (ex Samsung) to protect Google from key strategic risks

**Update: RSA spend and enrollment behind the target we set with 2016 BC approval**

- 2016 BC approval targeted 85% Android base coverage at ~15% of Total Search Distribution Revenue via Android. Due to device by-device nature of the deal, we are (1) not getting protection on some devices and (2) getting very limited traction in the "bonus" tier that is supposed to align OEMs with Google's xPA priorities

**Since 2016, Android dynamics changed and we have higher exposure of Search and Play revenue than before**

- Chinese OEMs and Samsung are actively investing in creating own app and services ecosystems; Microsoft and Amazon pursuing distribution deals on devices not covered by RSA; and Android market share is under pressure in developed carrier led geos

**Ask: Spend $2.9B in total in 2020 (+$141M to status quo) growing to $4.5B (+$600M) in 2023 across Search and Play for carriers and non-Samsung OEMs to secure platform protections for Search, and Play and critical apps protections on more devices**

- **Introduce a new platform tier of RSA** to secure browser defaults and assistant DHS exclusivity & gesture at scale

- Offer up to **16% Play rev share to OEMs** (16% to key CN OEMs, 4-8% to smaller OEMs), spending **est. $35M in 2020 and up to $224M in 2023** (steady state) in addition to the **bonus tier of current RSA** to secure **Play exclusivity, Android upgrades, and distribution for critical apps** (Comms suite, Pay, Photos, Gmail, Gcal, Discover suite)

- Offer additional **4ppt of Search & Assistant revenue share to most strategic partners** (for total of 16% for Xiaomi and 20% for carriers) to incentivize clean UI devices with full set of Google apps
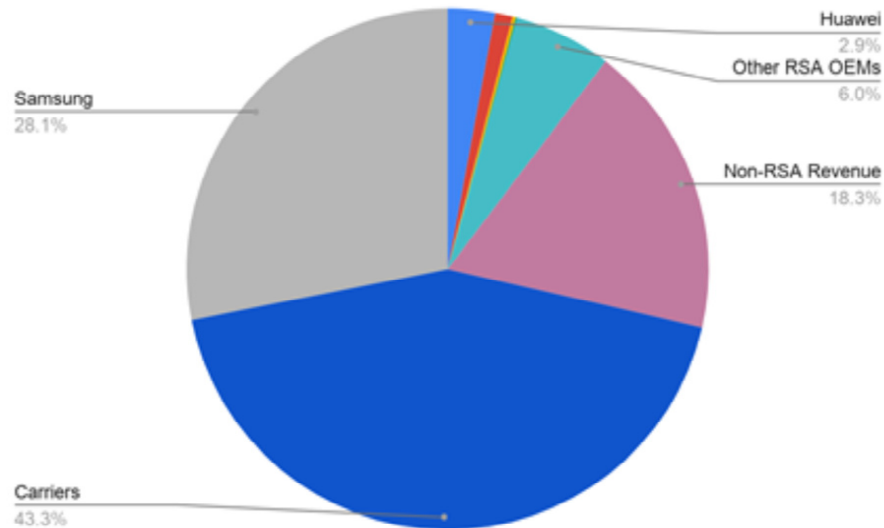
*Note: Total Search Distribution Revenue via Android Forecast includes Non-RSA Partner Dist, Rev*

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**EXHIBIT 624.R-002**

GOOG-PLAY-004488107.R

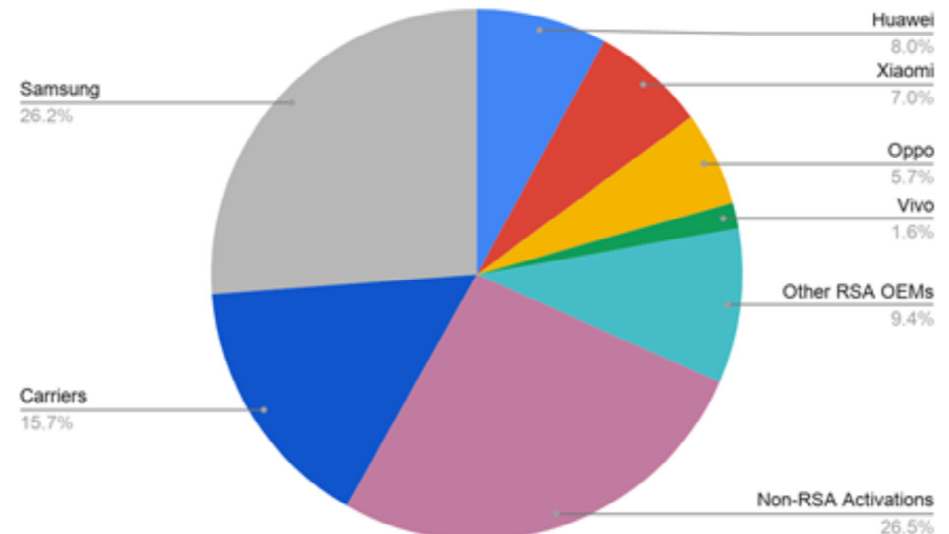# Scope: Proposed changes will impact ~70% of Android activations and Search Distribution Revenue via Android

**Mix of Q1'19 Search Distribution Revenue via Android**

Huawei 2.9%
Other RSA OEMs 6.0%
Samsung 28.1%
Non-RSA Revenue 18.3%
Carriers 43.3%

**$4.4B out of $6.2B Q1'19 Search Dist. Rev via Android**

**Mix of Q1'19 Android Activations**

Huawei 8.0%
Xiaomi 7.0%
Oppo 5.7%
Vivo 1.6%
Other RSA OEMs 9.4%
Samsung 26.2%
Carriers 15.7%
Non-RSA Activations 26.5%

**164M out of 220M Q1'19 Activations**

*Note: Activations and Search Dist. Rev via Android are based on Client ID (not manufacturer)*

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- Formatting

**EXHIBIT 624.R-003**

# Rewind back to 2016 BC Approval: Goal to secure more access points / Assistant / security updates / apps across more devices

| Key "Gets" | Detail of the "Gets" | Key Terms / Outcome |
|---|---|---|
| Set additional access points | Secure 3rd party browser defaults (not covered by MADA) on more devices (in 2016 ~45% devices were covered) | **What worked:** ~68% activations/ 57% actives have protections for: • Search Exclusivity (DHS in EU) • Search defaults on 3P browsers • Assistant DHS exclusivity • Feed (~15% of activations) • Security updates |
| Ensure security updates | Accelerating security updates is an Android ecosystem imperative | |
| Account for Assistant considerations | -Assistants increasingly seen as a future platform -Amazon heavily investing in Alexa & globally pursuing distribution partnerships w/ Android OEMs & Carriers (US/CA, UK, ID, LATAM, IN) | |
| Cover strategic regions | Expand & grow coverage in key regions (JP, KR, IN, ID, LATAM) | **What did not work: ~7% activations** covered by additional app protections |
| Get distribution for additional apps | Secure defaults for 6 apps, critical for user experience (Mail, Photos, Calendar, Gboard, Messages, Duo) for additional 4ppt of revenue | |

In 2018, BC approved TAC to increase up to ~16-17% of Total Android Distribution Revenue in 2016-2023 assuming 100% Android devices would be covered by RSA (50% would be in the bonus tier):

| ($ in billions) | 2017A (Total \| Samsung \| X-Samsung) | 2018A (Total \| Samsung \| X-Samsung) |
|---|---|---|
| BC Approved TAC | $2.2 \| $0.8 \| $1.4 | $3.1 \| $1.2 \| $2.0 |
| % of Forecasted Distribution Revenue | 16.4% \| 17.7% \| 15.8% | 16.8% \| 20.0% \| 15.4% |
| TAC Actuals | $2.2 \| $0.8 \| $1.4 | $3.0 \| $1.2 \| $1.8 |
| % of Actual Distribution Revenue | 13.9% \| 17.6% \| 12.4% | 16.4% \| 18.9% \| 15.0% |

*Carrier and Samsung negotiations took longer than expected, so the anticipated shift in TAC to Carriers did not materialize

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**EXHIBIT 624.R-004**

# Since 2016, ecosystem dynamics have changed and competition has increased. Gaps in coverage exist.

**1** Search and Assistant

- **EC** ruling created opportunity for **rivals to secure full Search exclusivity** on devices in EEA
- **Microsoft and Amazon actively pursuing deals for Bing/Alexa** on devices not covered by RSA| (e.g. Bing is a default search on Xiaomi & Vivo in India; Alexa is prominent on LG/ Moto Prime phones)

**2** Play / Android

- Chinese OEMs have **alternative stores preloaded on ~80% of Android devices,** and have a meaningful overlap with Play offering; **Huawei working on their own OS**
- **Samsung ramped up investments into their own store** with S10 launch
- **If Play is less relevant for OEMs, MADA protections may be at risk** (leading to higher TAC)

**3** Other apps

- Chinese OEMs have **~90% services overlap with GMS apps and are at an inflection point on expanding their services** outside China & India, e.g. Xiaomi made $125M in service revenue in India in 2018
- iOS users expect **cohesive set of services** incl. Messages, Photos, Music, Mail, etc. and view lack of unified offering on Android as a deterrent for **switching**

**4** Android reach [Carriers]

- Android **share is under pressure in US** (lost 6ppt in 2018; 2% DAU decline), and **developed markets where most of the last year Android gains were driven by Huawei;** Huawei ban puts ~250M shipments at risk over 2yrs

NOTES: 1) Based on MagicEye *study* of Android One devices, controlling for user, device, and geo

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**EXHIBIT 624.R-005**

# New proposed structure (GDAF): Offer partners choice of 3 tiers of Google experience

**OLD**

| RSA Base tier (device by device) | OEM ONLY RSA Bonus tier (device by device) |
|---|---|

**1**          **2 - 4**

**NEW**

| NEW Core Experience (platform) | Optimized Experience (device by device as-is) | Google Forward (device by device) |
|---|---|---|

**Split** protections **into 2 separate components (platform and device-by-device)** to get browser and assistant coverage on 100% of Android devices, and full RSA coverage in the higher tier

Find **financially responsible way** to (1) **support OEMs** via services revenue and (2) **align OEMs with Google's vision of Mobile on Android**, including app distribution, upgrades, UX, apps, deep integration with Google services (e.g. Assistant, Feed, Camera/Photos, Pay, Comms)

**No incremental TAC %, higher 2023 spend (+$194M) only due to increased coverage**

**$406M incremental revenue share in 2023 ($326M for Google forward devices + $80M for devices with Play protection only)**

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**EXHIBIT 624.R-006**

# OEMs: We are proposing a 3-tiered deal framework that can be customized for individual partner via the fallbacks:

**NEW**

| Core Experience (platform) | Optimized Experience (device level, conditional on Core) | Google Forward (device, conditional on Optimized) |
|---|---|---|

**Core Experience (platform)**

*8% Browser search revenue share*
*0% on GSA Widget*
*(~4% overall Search rev share)*

- OEM browser search defaults *(waived in EEA)*
- *Assistant DHS, hotword and gesture exclusivity*
- *No search exclusivity*

**Optimized Experience (device level, conditional on Core)**

**8% Search revenue share (as TODAY base)**

- *Full* exclusivity for Search & Assistant incl. Visual Search *(+DHS icon for Assistant)*
- Defaults for Feed (minimum shared) & Gboard

**Google Forward (device, conditional on Optimized)**

**12% Search (as TODAY bonus)**
*16% Play revenue share (~5% of spend) for Oppo/Vivo/Xiaomi; 4-8% for selected smaller OEMs***

- *Google apps as defaults for all key functions (i.e., Photos,Comms, Pay, Gmail, Calendar, etc.)*
- *Play as primary/ exclusive source of 3p downloads*
- *All access points for Search/Assistant/Lens*
- *Deeper product/ technical collaboration*
- *Google has approval over final UI*
- *Google retains rights to evolve the program over time*

*Expected 1: Oppo & Vivo*: Drop U /app requirements (& reduce Search revenue to Optimized level), but keep Play rev share

*Expected 2: Xiaomi: ~4pct of Search rev****

*Also includes Transsion;
**We pay on Google-portion of Non-DCB Apps & Games Revenue & Play ads excl. transaction costs; Lower (4%) Play revenue share to be offered to LG, Lenovo, Sony, Asus and other smaller OEMs;
***Asus and Sony have historically had 16% TAC rates under RSA 2.0 and will continue to have the option to receive 16% under GFWD tier

- OS Upgrades and Play Exclusivity
- Google approves the UX/SW experience, subject to change by Google, which today includes: deep integrations for Assistant, Clean UI, Defaults/ exclusivity for Comms, Pay, Photos, News/Podcast, Gmail, GCal)

**EXHIBIT 624.R-007**

GOOG-PLAY-004488112.R

# Carriers: Similar 3-tiered deal framework that can be customized for individual partner via the fallbacks:

**NEW**

| Core Experience (platform) | Optimized Experience (device level, conditional on Core) | Google Forward (device, conditional on Optimized) |
|---|---|---|
| 4% GROSS  Search rev share | 16% GROSS Search rev share (as TODAY base) | 20% GROSS Search rev share (no Play) |

| | |
|---|---|
| *Require carriers to spend 10-20% (ramp) of Google payout on promoting Android & Search* | *Spend 50% of the incremental revenue from this tier on Google forward devices* |

- OEM browser search defaults *(waived in EEA)*
- *Assistant DHS, hotword and gesture exclusivity*
- *No search exclusivity*

- *Full* exclusivity for Search & Assistant incl. Visual Search *(+DHS icon for Assistant)*
- Defaults for Feed (minimum shared) & Gboard

- *Google apps as defaults for all key functions (i.e., Photos, Comms, Pay, Gmail, Calendar, etc.)*
- *Play as primary/exclusive source of 3p downloads*
- *All access points for Search/Assistant/Lens*
- *Deeper product/technical collaboration*
- *Google has approval over final UI*
- *Google retains rights to evolve the program over time*

*\* Revenue share paid on Google-portion of Apps & Games Revenue, and on Play Ads*

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**EXHIBIT 624.R-008**

# Search & Play revenues are top priority for Google forward tier

*All gets incremental to Optimized tier; Google can update asks during the deal*

### [PO] Optimized for Search & Play monetization

**Core gets**

- Core Search & Play provisions (e.g. Hotword, Discover, Play DHS exclusivity)

**Potential negotiation**

- Play full exclusivity
- Play FOP during setup
- Letter upgrades on low end devices

### Best Assistant experience on Android

**Core gets**

- SW integrations (e.g. gestures, lockscreen, visual cues, core app defaults (Gmail, Calendar)

**Potential negotiation**

- BOM impacting integrations (e.g. dedicated button)

### Cohesive phone experience

**Core gets**

- UI & app preloads approval
- Defaults for preloaded GMS apps + no app duplication
- Google reserves right to evolve the list

**Potential negotiation**

- Non-trivial eng work (e.g. AR/VR)
- Missing critical features (e.g. Photos in some goes)
- Carrier blocking (Comms in US)

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- Guiding principles
- P0: Core Search and Play provisions are non-negotiable. We reserve the right with OEMs to also request implementation of additional revenue generating features (e.g. Play FOP setup in OOB)
- P1: Assistant integrations are top priority. Only negotiable items are provisions where OEM BOM is impacted (e.g. HW buttons, DSP integrations, etc.). Waiving such provisions will result in a lower pay-out for the partner
- P1: Cohesive phone experience (i.e. UI and app preload approval): Non-negotiable (including no duplication of GMS apps). Google reserves the right to change/evolve the list of requested apps based on feature availability (e.g. Comms in JP), or changed priorities (e.g. require Camera integration, GPay additional features, etc. in the future)

**EXHIBIT 624.R-009**

GOOG-PLAY-004488114.R

# How are we spending the $600M in 2023: Protecting Search, Assistant, Play and getting 483M clean, Google forward devices

**1&2** **Revenue at Risk Hedging: $274M**
($194M search + $80M Play)

**1** **Search & assistant $194M**

- Hedge **$2.7B non-covered** revenue ($0.6B of browser and $2.1Bin Europe revenue)

- Secure **critical Assistant access** points (~85% of Assistant invocations) on incremental **1.8B** devices

**2** **Play on Oppo/Vivo/ Transsion $80M**

- Hedge **$1B non-covered Play** revenue for the CN OEMs which are not likely to agree to UI/apps requirements

**3&4** **Google forward devices: $326M**
($181M search + $145M Play)

- **Xiaomi (112M actives):** $62M in Search + $37M in Play **in lieu of individual bounties**

- **Non CN OEMs (336M actives):** $30M in Search + $107M in Play **in lieu of individual bounties**

- **Carriers (35M actives):** $90M in Search to get clean devices (likely Pixel) and help incentivize them to sign up to **spend ~$803M in co-marketing**

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**EXHIBIT 624.R-010**

# We propose investing $0.7 per device to get 483M devices with best of Google experience on Android ($326M in 2023 in total)

**Value of Google Forward tier -** *Not part of financial deal model*

+$x

+$x

*"Theoretical break-even"*

+$2
($90M total)

*Additional upside and strategic benefits*

Today

| -$0.7/device ($326M total) | +$0.6 ($290M total) | +$0.2 ($60M total) | | | |
|---|---|---|---|---|---|
| **Pay-out** | **Revenue uplift potential** | **App bounty savings opportunity** | **Carrier marketing** | **iOS switching** | **Other strategic value** |
| -$0.4 Search -$0.3 Play | +$0.3 Search +$0.3 Play Assuming 50% of observed 3-5pts revenue uplift for G Fwd devices via Search & Play | Varies by OEM: - Xiaomi: $0.3 more, but we get more - LG: $0.6 savings per device after 2020 Other non CN OEMs: ~$0.5 savings | Carrier devices only! $800M in marketing by carriers (might require additional 1-2 HC to manage), of which $90M to be spent specifically on GFD devices | LTV contribution + strategic value of iOS switching Clean devices are 15-20% more likely to attract iOS switchers (observed in Western Europe) | Aligns rapidly growing CN OEMs with Google before they pass the pivotal moment in 1P services e.g. Xiaomi $125M revenue from 1P services/ads in IN/ID) Promotes Android and Google by advancing cleaner, more secure, fresher UX |

- Strategic
- Aligns rapidly growing CN OEMs with Google before they pass the pivotal moment in 1P services growth (e.g. Xiaomi generated $125M revenue from 1P services and ads in IN/ID)
- Promotes Android and Google by advancing cleaner, more secure, fresher UX
- App efficiency
- Per device** and operational savings by consolidating standalone bounties:
- Xiaomi: GFD is $0.3 more expensive than app bounties, but adds Play, Clean UI, Photos, Gmail and Gcal protections
- LG: $0.6 savings per device after 2020 (GFD is $0.1 more expensive vs. app bounties until button deal runs out)
- Other non CN OEMs: ~$0.5 savings per device (incl. HW button)
- Additional potential upside (not part of the deal model)
- $800M in marketing by carriers (might require additional 1-2 HC to manage)
- 3-5pts revenue uplift for Google Forward devices via Search & Play
- Clean devices are 15-20% more likely to attract iOS switchers

**EXHIBIT 624.R-011**

# Search protections on 892M more actives, plus 483M Google forward actives would cost Google incremental $600M in 2023



GDAF TAC Payments by Tier ($M)

Legend:
- ...Incr GFWD Play NRE Payment / Revenue Share
- ...Incr Search Dist RevShare from (+4%) GFWD TAC Rate
- ...Incr Search Dist RevShare from Mix Shift between 8-12%
- ...Incr Search Dist RevShare from Expansion of Coverage
- Status Quo TAC

Bar totals: 2018 $1,779 | 2019 $2,308 | 2020 $2,910 | 2021 $3,477 | 2022 $4,028 | 2023 $4,510
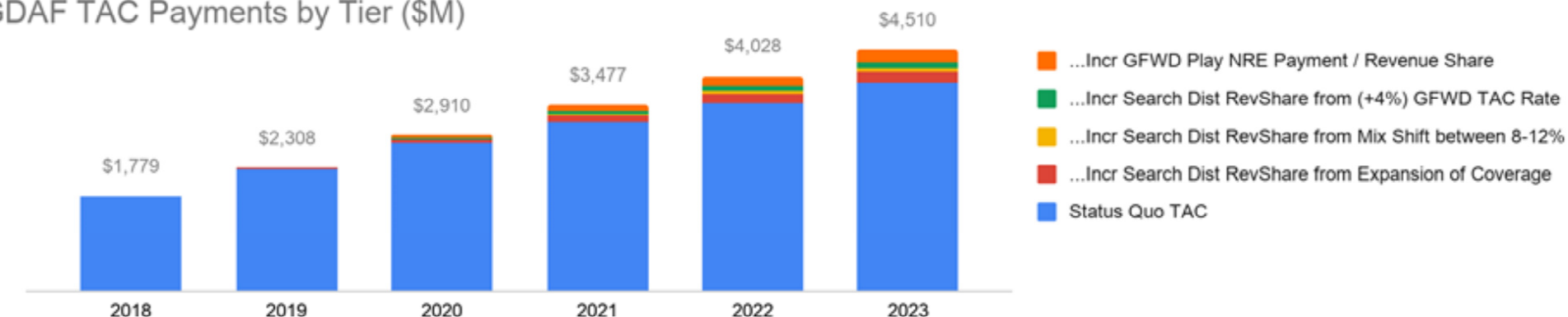
| ($ in millions) | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|
| Status Quo TAC | $1,779 | $2,284 | $2,769 | $3,158 | $3,524 | $3,910 |
| Incr Search Dist RevShare from Expansion of Coverage | $0 | $5 | $51 | $116 | $168 | $194 |
| Incr Search Dist RevShare from Mix Shift between 8-12% | $0 | $0 | $15 | $30 | $42 | $47 |
| Incr Search Dist RevShare from (+4%) GFWD TAC Rate | $0 | $17 | $40 | $76 | $117 | $134 |
| Incr GFWD Play NRE Payment / Revenue Share | $0 | $2 | $35 | $98 | $178 | $224 |
| Total | $1,779 | $2,308 | $2,910 | $3,477 | $4,028 | $4,510 |

$600M Incr above Status Quo

$375M Search Revshare

Note: Status Quo assumes current RSA rates and split between Base and Bonus Tier will continue for each OEM, with the revenue under RSA increasing at a natural historical rate until a general cap of 70% (except for OEMs that have already reached actuals 70%+). GDAF model assumes partners who take GDAF will have 100% of revenue through GDAF devices within 3 years. GDAF enrollment is generally 90-100% GFWD - details on Search Model Assumptions slide in Appendix

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- Other OEMs includes rampdown from Huawei RSA devices

**EXHIBIT 624.R-012**

GOOG-PLAY-004488117.R

# Overall economic impact (expected case): Total incremental payment will reach $600M in 2023 (~37% from Play; 63% Search)

2-year term

| ($ in millions) | 2018A | 2019E | 2020F | 2021F | 2022F | 2023F | Two Year Term |
|---|---|---|---|---|---|---|---|
| Total Search Distribution Revenue via Android | $22,575 | $26,801 | $31,589 | $36,128 | $40,726 | $45,291 | $67,717 |
| | | | | | | | |
| Non-Samsung Search RSA Revenue (Status Quo) | $11,393 | $15,383 | $18,876 | $21,258 | $23,364 | $25,905 | $40,134 |
| Non-Samsung Search RSA Revenue (GDAF) | $11,397 | $15,430 | $19,253 | $22,142 | $24,628 | $27,305 | $41,395 |
| Total Status Quo Search TAC | $1,779 | $2,284 | $2,769 | $3,158 | $3,524 | $3,910 | $5,927 |
| % of Search Dist Rev via Android | 15.6% | 14.8% | 14.7% | 14.9% | 15.1% | 15.1% | 14.8% |
| Incremental GDAF Search TAC | | | | | | | |
| Expansion of Coverage | - | $5 | $51 | $116 | $168 | $194 | $167 |
| Mix Shift between 8-12% | - | $0 | $15 | $30 | $42 | $47 | $44 |
| TAC % Incr above Bonus Rate | - | $17 | $40 | $76 | $117 | $134 | $116 |
| Total GDAF Search TAC | $1,779 | $2,306 | $2,875 | $3,380 | $3,851 | $4,288 | $6,255 |
| % of Search Dist Rev via Android | 15.6% | 14.9% | 14.9% | 15.3% | 15.6% | 15.7% | 15.1% |
| Play Rev Eligible for Rev Share | | $18 | $351 | $930 | $1,649 | $2,035 | $1,281 |
| Incr GDAF Play RevShare | - | $2 | $35 | $98 | $178 | $224 | $133 |
| Total GDAF Payment | $1,779 | $2,308 | $2,910 | $3,477 | $4,028 | $4,510 | $6,388 |
| Total Incremental GDAF Payment | - | $24 | $141 | $320 | $505 | $600 | $461 |
| Mandated Carrier Reinvestment into Android | - | $293 | $347 | $518 | $586 | $803 | $865 |

Note: Total Search Distribution Revenue via Android Forecast includes Samsung and Non-RSA Partner Dist, Rev and and does not include the removal of Huawei's forecasted revenue;
All other line items incorporate Huawei's ramp down (revenue momentum redistributed among other OEMs according to past user switching behavior)
Carrier reinvestment is based on percentages of two set of revenue share: GFWD and Other Tiers. For GFWD revenue share, required reinvestment is 50%. For Other Tiers, required reinvestment of 10% in 2019-2020, 15% in 2021-2022 and 20% in 2023

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- Mandated carrier reinvestment is 10%, 10%, 15%, 15%, 20% in each year
- Other OEMs includes rampdown from Huawei RSA devices

**EXHIBIT 624.R-013**

# GTM / Roll-out strategy

**Phasing**

| | |
|---|---|
| **P0 OEMs/Carriers + Samsung** | |
| **GFwd program** P&E to lead the xPA collaboration on implementation | |

**P&E/PEX review** of progress & decision on fallbacks for negotiable terms

**BC email update**

**Include other OEMs** as appropriate

**Adjust carrier pitch** re Play & incl. P1/P2 carriers

**Device ramp**

**BC email update**

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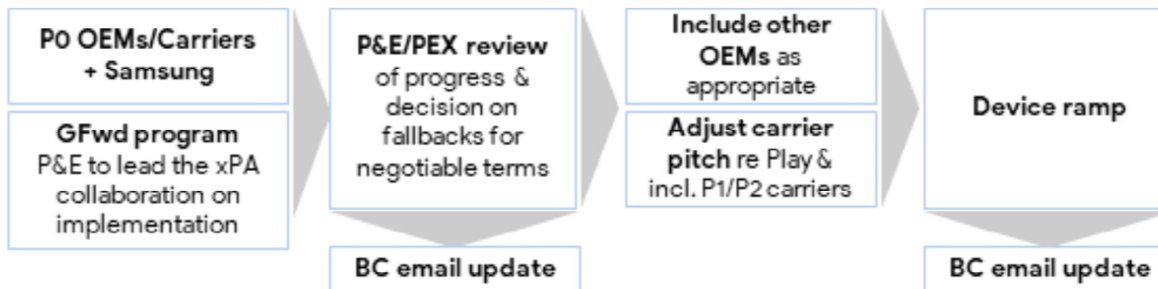
**Key Dates**

*Next Week: HK OEM Summit to introduce new structure to OEMS*

| Today: BC | Jul/Aug 2019 | Nov/Dec 2019 | Feb 2020 | Apr/May 2020 | Aug 2020 | March 2021 |
|---|---|---|---|---|---|---|

**Carrier Expiration dates**

| | AMX, **DT, Sprint T Mobile**, Roger, USC, KDDI, Optus | Bell, Comcast, Charter, Hutch, TIM | **ATT**, Bouygues, Telus, Telstra | **Orange**, Telenor, Vodafone AU | EE(BT), **Vodafone** | Telefonica |

**OEM Expiration dates**

| | **Samsung**, LG, **Xiaomi**, Lenovo, HMD, BQ, Transsion, Positivo | **Oppo, Vivo**, Sony, TCL, Wiko | | | | Asus |

**EXHIBIT 624.R-014**

GOOG-PLAY-004488119.R

# Financials

*Link to pre-read materials*

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**EXHIBIT 624.R-015**

# Overall economic impact (Expected Case): Total incremental TAC payment will reach $600M in 2023

| | 2018A | 2019E | 2020F | 2021F | 2022F | 2023F |
|---|---|---|---|---|---|---|
| **(1) Payments to OEMs** | | | | | | |
| Status Quo Search TAC | | | | | | |
| Xiaomi | $9 | $34 | $61 | $89 | $115 | $126 |
| Oppo / Vivo / Transsion | $2 | $11 | $24 | $33 | $39 | $45 |
| Other Non-Samsung OEMs | $181 | $321 | $423 | $451 | $456 | $498 |
| Total Search TAC | $192 | $366 | $509 | $573 | $610 | $669 |
| Incremental TAC from GDAF | | | | | | |
| Search TAC - Expansion of Coverage | $0 | $4 | $36 | $83 | $118 | $129 |
| Search TAC - Mix Shift between 8-12% | $0 | $0 | $15 | $30 | $42 | $47 |
| Search TAC - TAC % Incr above Bonus Rate | $0 | $1 | $0 | $12 | $37 | $44 |
| Play Revenue Share | $0 | $2 | $35 | $98 | $178 | $224 |
| Total Incremental Payment | $0 | $7 | $86 | $223 | $375 | $444 |
| **(2) Payment to Carriers** | | | | | | |
| Status Quo | | | | | | |
| Search TAC | $1,587 | $1,918 | $2,260 | $2,585 | $2,914 | $3,241 |
| Incremental TAC from GDAF | | | | | | |
| TAC % Incr above Bonus Rate | $0 | $16 | $40 | $64 | $80 | $90 |
| KR/JP Carriers - Expansion of Coverage | $0 | $1 | $15 | $33 | $50 | $65 |
| Total Incremental Payment | $0 | $17 | $55 | $97 | $130 | $155 |
| | | | | | | |
| **(3) Incr Payment above Bonus Rate** | $0 | $17 | $40 | $76 | $117 | $134 |
| | | | | | | |
| Total Incremental Payments | $0 | $24 | $141 | $320 | $505 | $600 |

(1) Payments to OEMs assume all devices will be covered by a rev share agreement (because GDAF will be platform-wide) by 2023 and that enrollment of devices will generally be between 90-100% GFWD

(2) Payments to Carriers increases due to the expansion of RSA to KR/JP Carriers and the enrollment of ~10% GFWD (with 20% TAC)

(3) Incremental Payment above Bonus Rate is the portion of the Total Incremental Payments that is due to increasing TAC % above current bonus rates (12% for most OEMs and 16% for Carriers)

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- Other OEMs includes rampdown from Huawei RSA devices

**EXHIBIT 624.R-016**

GOOG-PLAY-004488121.R

# 1&2: We plan to spend $274M to cover ~$3.8B in key financial risks for Search and Play in addition to current deals

*(2023F estimates)*



**Case 1:**
**Keep RSA deals as-is**
**$15B unsc'rd| $3.9B Revshare**

- $9B Play unsecured
- $3.9B Revshare
- $6B Search unsc'rd
- $29B Search secured

*Assumes no deal with Samsung*

*Hug not incl'd as not contractually protected*

**[Recommendation] Case 2:**
**Implement GDAF proposal**
**$11B unsc'rd | $4.5B Revshare**

- $7B Play unsecured
- $4.5B Revshare
- $2B Play sec'd
- $4B Search unsc'rd
- $31B Search secured

*No KR/JP carriers secured*

*Some EEA risk not securable*

**Case 3:**
**Let all RSAs expire**
**$21B unsc'rd |$0 Revshare**

- $9B Play revenue at risk
- 0 Revshare
- $12B Search revenue at risk
- $23B Search revenue covered

*MADA secures GSA and Chrome on device*

**Other risk**
- Assistant coverage
- Fragmented app experience
- MADA less relevant

- In the short run, slower velocity for some apps (Gboard, Feed) than standalone distribution deals

- Significant relationship damage
- Assistant coverage
- MADA less relevant

*Note: Protected Search revenue: contractually protected Access points for Google (e.g. search widget outside of EEA protected by MADA; search defaults on 3rd party browsers protected by RSA); EEA search revenue at-risk assumes 5% non-Google choice; Organic winback of Google based on 20% organic search usage*

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**EXHIBIT 624.R-017**

# GDAF's Google Forward Tier protects against Play risk with OEMs, complementing Hug and Banyan

Play has 3 key ecosystem players to consider, and our risk mitigation strategies are catered to each:

| | **Users** | **Developers** | **OEMs** |
|---|---|---|---|
| **Risk Mitigation** | Loyalty program | Hug (reviewed at BC earlier this year) | Banyan & GDAF |
| **Mechanism** | User incentives | Developer incentives | *Contractual and financial incentives* |

| | **Play Apps and Ads Revenue** | | | | | |
|---|---|---|---|---|---|---|
| $ millions | 2018A* | 2019E | 2020F | 2021F | 2022F | 2023F |
| Xiaomi | $199 | $346 | $498 | $699 | $918 | $1,093 |
| Oppo / Vivo / Transsion | $260 | $453 | $664 | $863 | $1,051 | $1,264 |
| Other RSA Partners | $2,719 | $3,186 | $3,305 | $3,376 | $3,558 | $3,927 |
| Samsung | $4,321 | $5,312 | $6,258 | $7,287 | $8,434 | $9,507 |
| Non-RSA Partners | $911 | $1,236 | $1,474 | $1,659 | $1,858 | $1,985 |
| **Total** | **$8,410** | **$10,532** | **$12,198** | **$13,883** | **$15,818** | **$17,776** |

GDAF
Banyan
N/A

*2018 Play Ads revenue for each OEM is an estimate using total Play Ads revenue and allocated based on December 2018 28DA distribution across device manufacturers

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**EXHIBIT 624.R-018**

## GDAF Financial Expectation Range

| ($ in billions)<br>(% of Dist Rev) | % Enrollment in GFWD | Total Revenue Share over 2-year Deal Term | | | | 2023 Steady State Revenue Share | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Search (OEM) | Search (Carriers) | Play | Total | Search (OEM) | Search (Carriers) | Play | Total |
| High Case | 100% for OEMs and 50% for Carriers | $1.3B (11.7%) | $5.4B (17.6%) | $0.2B (11.2%) | **$6.9B (15.9%)** | $1.0B (13.6%) | $3.7B (18.0%) | $0.3B (11.9%) | **$5.0B (16.5%)** |
| Expected Case | 90 - 100% for OEMs 10% for Carriers | $1.3B (11.3%) | $5.0B (16.3%) | $0.1B (9.6%) | **$6.4B (14.8%)** | $0.9B (12.6%) | $3.4B (16.4%) | $0.2B (9.9%) | **$4.5B (15.0%)** |
| Low Case | 70% for OEMs 0% for Carriers | $1.1B (9.8%) | $4.9B (16.0%) | $0.0B (3.6%) | **$6.0B (14.0%)** | $0.8B (11.8%) | $3.3B (16.0%) | $0.2B (8.4%) | **$4.3B (14.4%)** |

Notes: Total Revenue Share over 2-year Deal Term is showing expectations for 2020-2021.

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- Other OEMs includes rampdown from Huawei RSA devices

**EXHIBIT 624.R-019**

# Sensitivity Analysis of exposed revenue in 2023F under current market dynamics

| Risk Vector | Low End Risk (2023F) | High End Risk (2023F) | Max At-Risk (2023F) |
|---|---|---|---|
| **Search in 3P Browser** | **$0.4B** <br> *3P browser in hotseat from Chinese partners[1] point to rival, with full Firefox-level organic winback[2]* | **$0.6B** <br> *3P browser in hotseat from Chinese partners[1] point to rival, with 50% of Firefox-level organic winback[2]* | **$0.7B** <br> *3P browser revenue in hotseat with 0% winback* |
| **Search in Europe** | **$0.2B** <br> *Rivals buy-out 30% of Xiaomi devices in EEA, equal to non-RSA 2.0 devices[3]* | **$0.4B** <br> *Rivals buy-out 30% of Chinese OEM devices in EEA* | **$5.0B** <br> *All GDAF partner EEA revenue* |
| **Play on CN Oems** | **$1.0B** <br> *Chinese partners[1] secure 33% of Play revenue (low-end usage % of Apptoide, Oppo)* | **$1.6B** <br> *Chinese partners[1] secure 56% of Play revenue (high-end usage % of Apptoide, Vivo)* | **$3.0B** <br> *Chinese partners[1] secure 100% of Play revenue* |

Notes: 1) Chinese OEMs include Xiaomi, Oppo, Vivo, and Lenovo, 2) Organic recovery after Firefox search default change was ~45-55% on U.S. desktops, 3) Xiaomi in Q1 '19 enrolled ~70% in RSA 2.0

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- Other OEMs includes rampdown from Huawei RSA devices

**EXHIBIT 624.R-020**

GOOG-PLAY-004488125.R

# Overall Play Exposure (Expected Case)

| ($ in millions) | 2019E | 2020F | 2021F | 2022F | 2023F |
|---|---|---|---|---|---|
| **Play Revenue Affected by GDAF (Enrolled in GFWD for RSA Partners)** | | | | | |
| Total Apps Revenue | $11 | $247 | $676 | $1,201 | $1,491 |
| Total Ads Revenue | $7 | $124 | $336 | $608 | $769 |
| **Total Revenue Affected** | $18 | $371 | $1,012 | $1,809 | $2,260 |
| *% of Total Play Apps and Ads Rev* | *0%* | *3%* | *7%* | *11%* | *13%* |
| **Play Revenue Share** | | | | | |
| Apps Revenue Share | $1 | $22 | $60 | $109 | $136 |
| Ads Revenue Share | $1 | $13 | $37 | $69 | $88 |
| **Total Revenue Share** | $2 | $35 | $98 | $178 | $224 |
| | | | | | |
| *Effective Rev Share Rate* | *8%* | *10%* | *10%* | *10%* | *10%* |

Play revenue would only be affected if it was earned on a GFWD GDAF device with one of the latest two OS letters

~35% of Play revenue is from RSA Partner OEM devices

~50% (at most) of actives are expected to have the last two OS letters

Play revenue share for GFWD devices would be paid out to OEMs, even if devices have a Carrier Client ID

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**EXHIBIT 624.R-021**

# Volume of devices under RSA continues to increase despite reduction of Huawei actives

| (in millions) | Actives (Non-Samsung) | | | | | |
|---|---|---|---|---|---|---|
| | 2018A | 2019E | 2020F | 2021F | 2022F | 2023F |
| Xiaomi | 120 | 170 | 221 | 268 | 298 | 314 |
| Oppo / Vivo | 139 | 191 | 234 | 261 | 278 | 300 |
| Huawei | 192 | 241 | 192 | 75 | 0 | 0 |
| Other OEMs | 373 | 384 | 393 | 402 | 407 | 412 |
| Carriers | 337 | 337 | 346 | 348 | 348 | 349 |
| **Total Actives** | **1,163** | **1,323** | **1,387** | **1,353** | **1,331** | **1,375** |
| | | | | | | |
| % of Revenue under RSA | 34.6% | 59.6% | 76.7% | 87.9% | 96.7% | 100.0% |

*Ramped down over 3 years and momentum is redistributed according to table below* (annotation pointing to Huawei)

| | Non-Android / iOS | Samsung | Xiaomi | Other OEMs |
|---|---|---|---|---|
| **Huawei Redistribution of Revenue** | 35% | 45% | 15% | 5% |

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- Other OEMs includes rampdown from Huawei RSA devices

**EXHIBIT 624.R-022**

GOOG-PLAY-004488127.R

# Search Model Assumptions

## Underlying Assumptions

- Revenue team's distribution revenue forecast (~23% with ~80% growth decay YoY)
- ~35% of Huawei's revenue momentum expected to leave Android

| ($ in millions) | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| Search Dist Rev via Android | $26.8 | $31.6 | $36.1 | $40.7 | $45.3 |

### Huawei Re-allocation of Revenue

| iOS or Other Non-Android | Samsung | Xiaomi | Other Smaller Android OEMs |
|---|---|---|---|
| 35% | 45% | 15% | 5% |

## Status Quo

- % of Distribution revenue for each OEM continues historical trend, with maximum ~70% of revenue under RSA (except for Asus, Lenovo, and HMD)
- Historical TAC rates (ratio split between Base and Bonus are maintained), with maximum of 12% and minimum of 8% (except for Sony and Asus which have a Bonus 16% TAC rate from RSA 2.0)

## GDAF Expected Case

- % of Distribution Revenue under RSA increases to 100% either at historical trend or within 3 years of current RSA expiry, whichever comes first
- OEMs
  - TAC Rate of 8% for Optimized and 12% for GFWD for most partners(16% GFWD for Xiaomi, Sony, and Asus)
  - Enrollment between 90 - 100% GFWD for most partners
    - 100% GFWD in all geographies: Asus, HMD, Lenovo, LG, Sony
    - 100% Optimized in all geographies for TCL
    - 90% GFWD / 10% Optimized for all other Partners (except 5% for Xiaomi in IN/ID)
  - Oppo / Vivo / Transsion expected to take Fallback #1 (8% search rate while still receiving Play revshare)
- Carriers
  - TAC Rate of 16% for Optimized and 20% for GFWD
  - Enrollment 90% Optimized, 10% GFWD
- KR and JP Carriers are also under consideration (if we decide to pursue RSA contracts with them)
  - Their potential revenue is represented by ~85% (steady state) of KR & JP revenue for Kyocera, Sharp, Lenovo, Xiaomi and Sony devices
  - Their ramp is expected to be 5 years instead of 3 because of historically slow ramp time for past deals in that geography

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- Other OEMs includes rampdown from Huawei RSA devices

**EXHIBIT 624.R-023**

## Play Model Assumptions

### Underlying Assumptions

- Play finance team's Apps/Games/Ads forecast utilized (assumed ramp up to steady state within ~3 years of current RSA expiration)
- OEM share of Play revenue assumed to shift according to historical trends and follow 28DA forecasts (similar to Search Model)
- Removal of 23% of forecasted Play App/Games revenue to remove DCB revenue from Play Revenue Share eligibility
- 50% of devices assumed to have the last two OS letter updates
- Play revenue share to OEMs is paid on all manufactured devices (regardless of Client IDs)
  - Revenue Share is only paid on GFWD devices (except for Oppo/Vivo/Transsion where we expect fallback terms to occur so that they will receive Play RevShare even if they do not meet all GFWD requirements)
  - Revenue Share Rates:
    - Xiaomi, Oppo, Vivo and Transsion will have 16% RevShare
    - Fly Mobile will not receive Play RevShare
    - HMD, Lenovo, LG and Sony will have 8% RevShare
    - All other OEMs will have 4% RevShare
  - Enrollment:
    - Expected to be the same as Search Model's Core/Optimized/GFWD enrollment for each OEM in each geography
    - Even if a device has a Carrier Client ID, we expect GDAF tier enrollment to be the same as if it was OEM Client ID
- Sharp (not a current RSA Partner) devices will also potentially be eligible for Play revenue share, with assumed 100% GFWD enrollment at a 4% Revenue Share rate

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- Other OEMs includes rampdown from Huawei RSA devices

**EXHIBIT 624.R-024**

GOOG-PLAY-004488129.R

# Detailed Materials (Appendix)

1: (Pre-read) Context on Android ecosystem
2: (Pre-read) 2016 RSA overview
3: (Pre-read) Europe impact
4: Detailed review of GDAF proposal

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**EXHIBIT 624.R-025**

GOOG-PLAY-004488130.R

# Pre-read
*(Context on Android Ecosystem)*

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**EXHIBIT 624.R-026**

GOOG-PLAY-004488131.R

# Global phone shipments are stalling; shipments declined by 2% Y/Y in 2018, with all segments experiencing losses
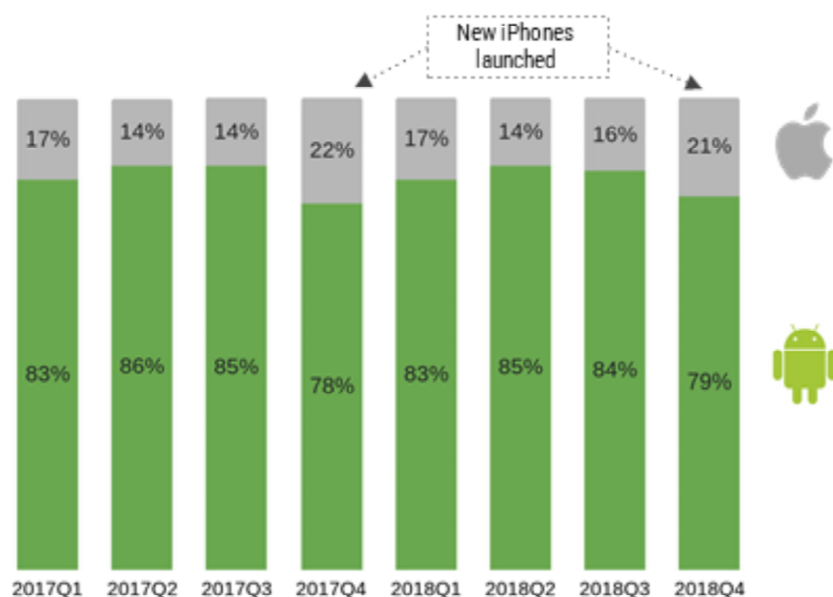
**Total Phone Shipments (millions)**
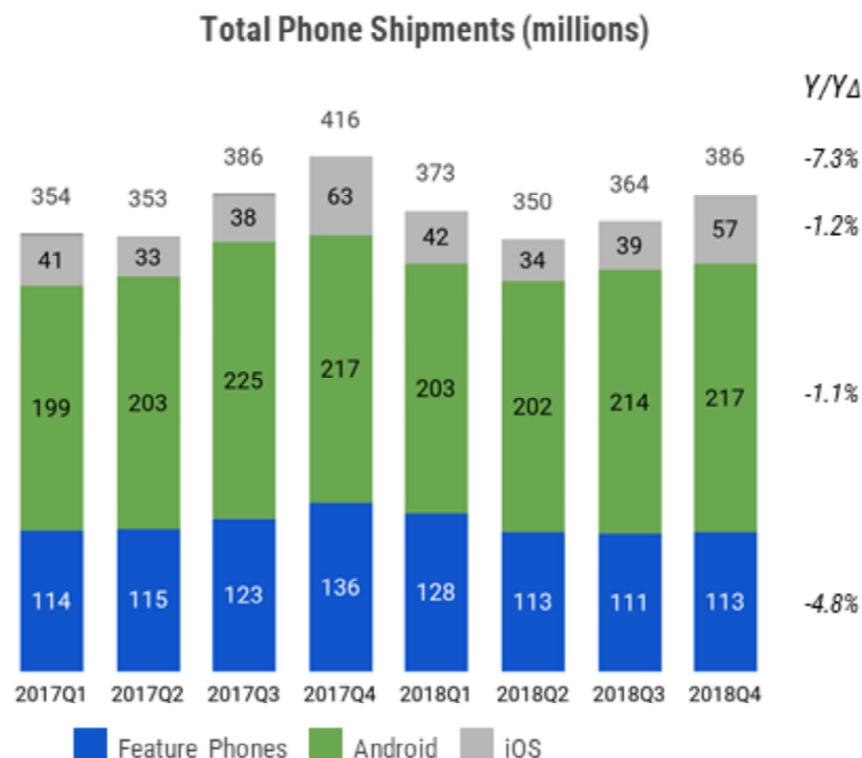


- **Smartphone shipments declined by 1.2% y/y in 2018** (Android -1.1%, iOS -1.2%)
  - All of iOS decline was in Q4 (-10% Y/Y) with less successful 2019 launches
  - Overall shipment decline due to shrinking entry segment, increasing device age and growing secondary market

- **Feature phone shipments declined by 5% y/y in 2018**, with JioPhone success unable offset overall category decline

Source: 3P IDC shipment data

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**EXHIBIT 624.R-027**

# Android global share of smartphones has increased slightly (1ppt), but regional numbers highlight share loss in N.America

**Y/Y Android share relatively steady outside expected Q4 seasonality**

**Apple grew its ~40% share in the US while Samsung and Huawei helped gain share in APAC and Europe**
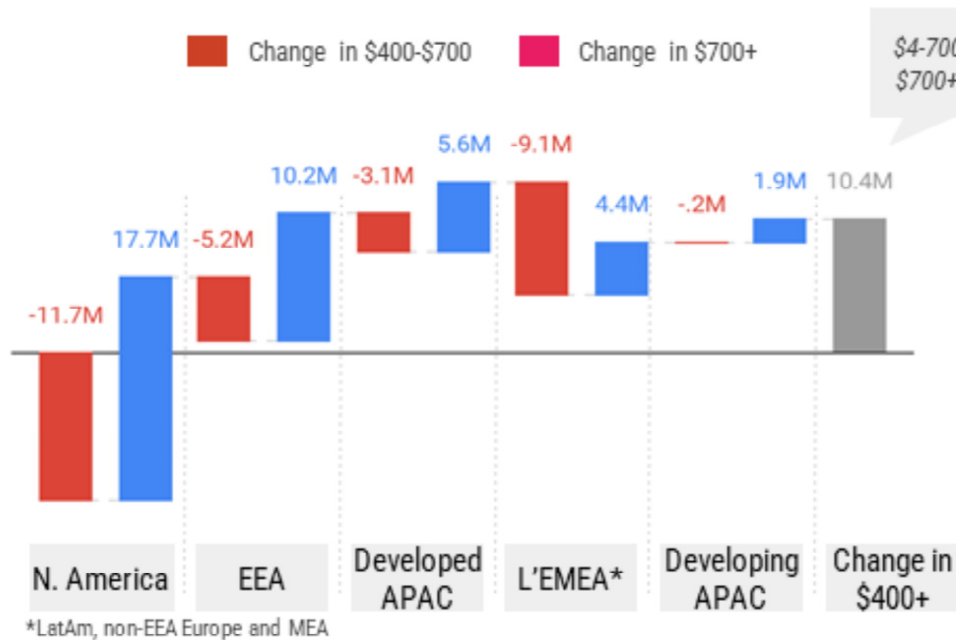
New iPhones launched

| Quarter | Apple | Android |
|---|---|---|
| 2017Q1 | 17% | 83% |
| 2017Q2 | 14% | 86% |
| 2017Q3 | 14% | 85% |
| 2017Q4 | 22% | 78% |
| 2018Q1 | 17% | 83% |
| 2018Q2 | 14% | 85% |
| 2018Q3 | 16% | 84% |
| 2018Q4 | 21% | 79% |

| Region | Smartphone Sales Growth (Y/Y) | Android Share (Q4 2018) | Android Share Change (Y/Y) |
|---|---|---|---|
| Developing APAC | 6% | 98% | 1% |
| L'EMEA* | -3% | 93% | 2% |
| North America | -7% | 49% | -6% |
| EEA | -3% | 70% | 3% |
| Developed APAC | -1% | 59% | 3% |
| **Global** | **-1.2%** | **79%** | **+2%** |

*LatAm, non-EEA Europe and MEA

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**EXHIBIT 624.R-028**

GOOG-PLAY-004488133.R
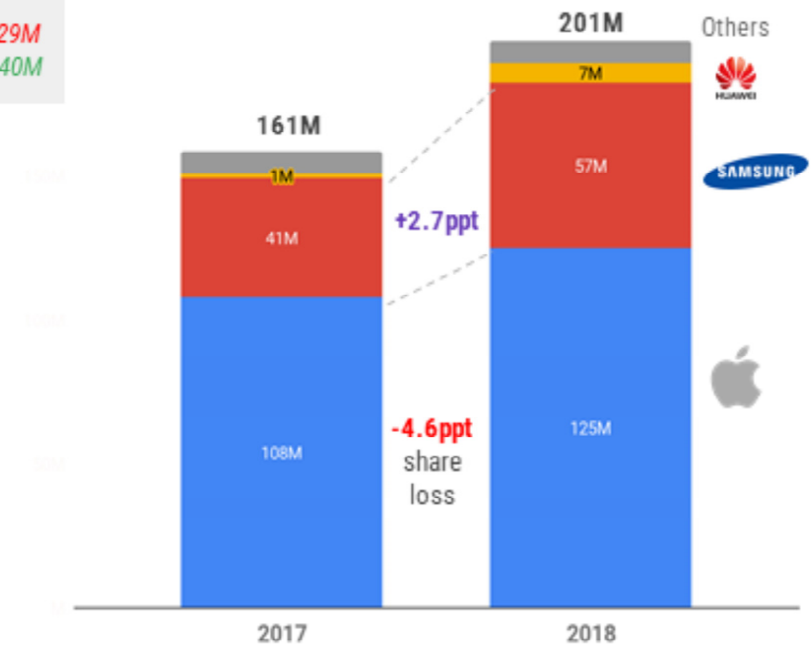
# Shift to ultra-premium prominent in developed geos; Samsung in APAC and Huawei in Europe drove share gain for Android



$400+ Shipment Growth by Region (2017 → 2018)
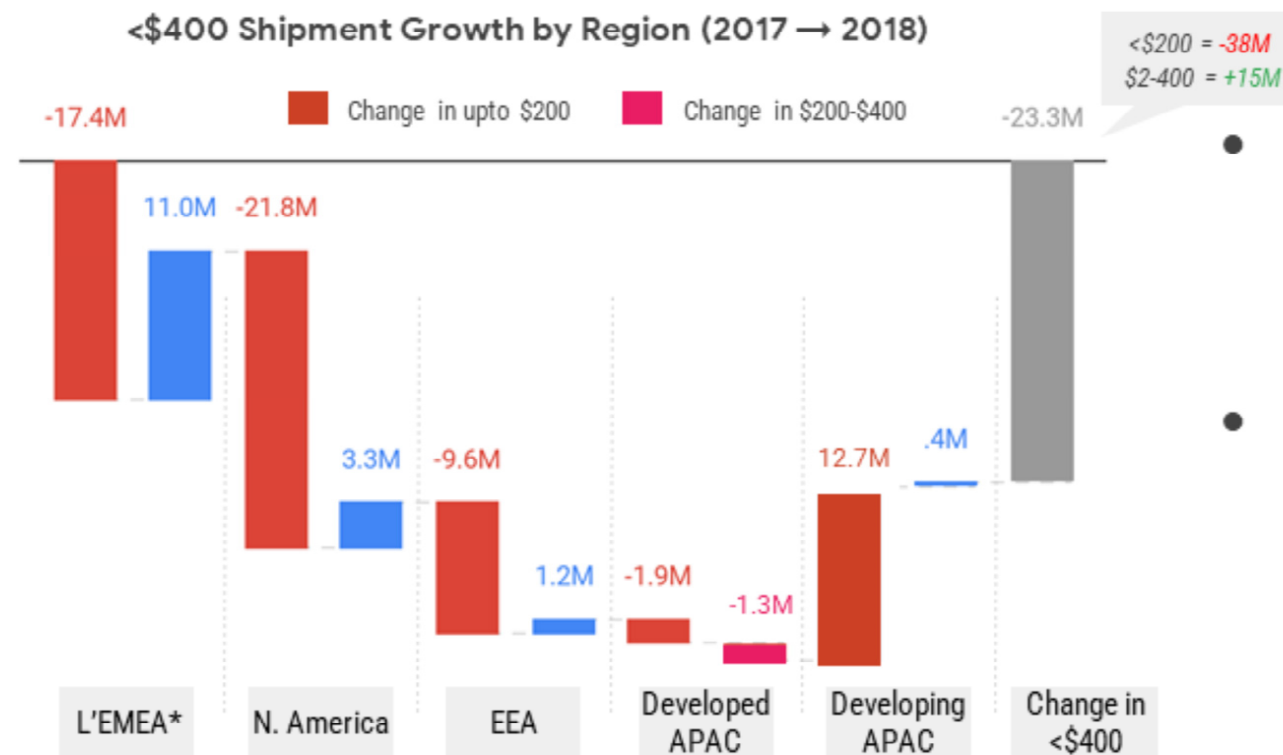
Change in $400-$700    Change in $700+

$4-700 = -29M
$700+ = +40M

-11.7M    17.7M    -5.2M    10.2M    -3.1M    5.6M    -9.1M    4.4M    -.2M    1.9M    10.4M

N. America    EEA    Developed APAC    L'EMEA*    Developing APAC    Change in $400+

*LatAm, non-EEA Europe and MEA

OEM Share of $700+ Shipments (2018 vs. 2017)

161M    201M    Others

1M    41M    7M    57M    HUAWEI    SAMSUNG

+2.7ppt

-4.6ppt share loss    108M    125M

2017    2018

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**EXHIBIT 624.R-029**

GOOG-PLAY-004488134.R

# Declines in entry-level not recovered by shift to mid-tier; Drivers: increase in device lifespan + secondary market growth



<$400 Shipment Growth by Region (2017 → 2018)

Change in upto $200
Change in $200-$400

<$200 = -38M
$2-400 = +15M

-17.4M
11.0M  -21.8M
3.3M  -9.6M
1.2M  -1.9M
-1.3M
12.7M  .4M
-23.3M

L'EMEA*   N. America   EEA   Developed APAC   Developing APAC   Change in <$400

Note: All data for smartphones only; Source: 3P IDC shipment data

*LatAm, non-EEA Europe and MEA

- Average **Android device age** in emerging markets is ~44 months (+13% Y/Y), 1.7x higher than in developed geos

- **Secondary sales** are growing at 15% Y/Y; and Apple controls most of the segment due to long device lifespan and low average price ($190-$220)

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**EXHIBIT 624.R-030**

GOOG-PLAY-004488135.R

# We need to invest in Android OEMs to hedge against ecosystem fragmentation



|  | **Android Today** | **Worst Case Scenario** | **Mitigations** |
|---|---|---|---|
| **Samsung** | • 323M 12mo activations, +6% y/y<br>• $4.3B Play, $13.8B Search | Samsung's Ecosystem | Samsung deal (incl. Banyan) |
| **CN OEMs** | • 420M activations, +23% y/y<br>• $1.3B Play, $4.9B Search | Huawei<br>China Ecosystem | Today's proposal |
| **Non CN OEMs** | • 350M activations, -12% y/y<br>• $2.8B Play, $5.5B Search | "Google's Android" | |

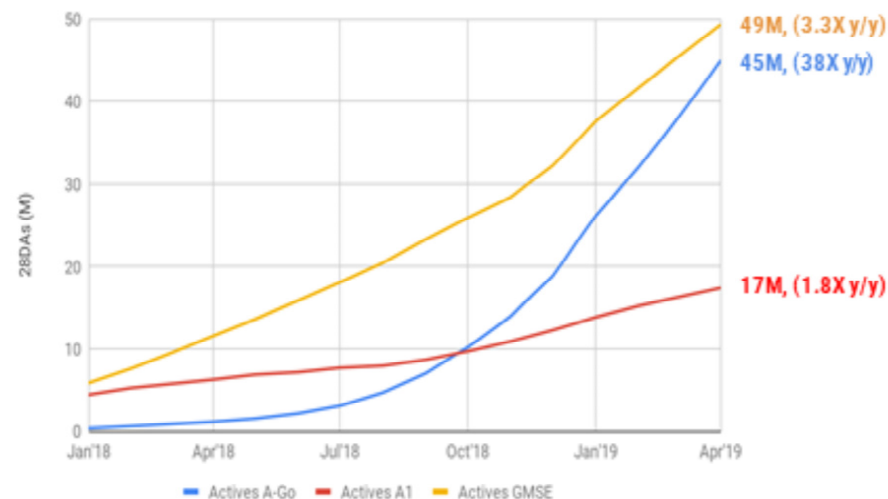*CN OEMS: Huawei, Xiaomi, Oppo, Vivo, TCL, ZTE, Transsion, Lenovo*

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**EXHIBIT 624.R-031**

# Samsung lost share as Huawei and Xiaomi gained prominence with 22% of activations and ~$4B in revenues growing at >70% Y/Y



**Share of Android Activations**

**Search/Play Revenues\*** (2019 annualized)

| | Global | EEA |
|---|---|---|
| SEARCH | $600M (>70% Y/Y) | $220M (>150% YoY) |
| PLAY | $185M (>120% Y/Y) | $28M (>180% YoY) |
| SEARCH | $2.5B (>70% Y/Y) | $1.8B (>80% Y/Y) |
| PLAY | $470M (>90% Y/Y) | $200M (>80% Y/Y) |

Source: Android Data; excluding China; Represent all Search and Play revenue flowing through Xiaomi/Huawei devices on all client_ids
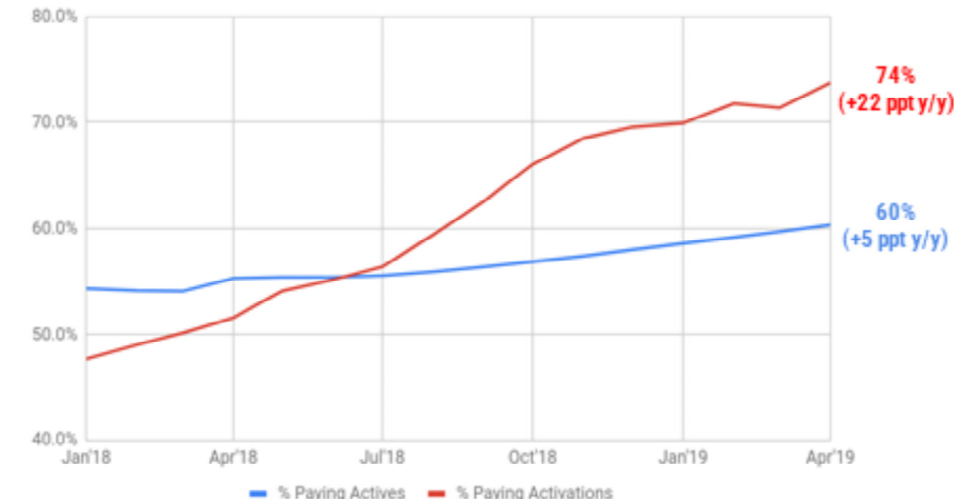
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**EXHIBIT 624.R-032**

GOOG-PLAY-004488137.R
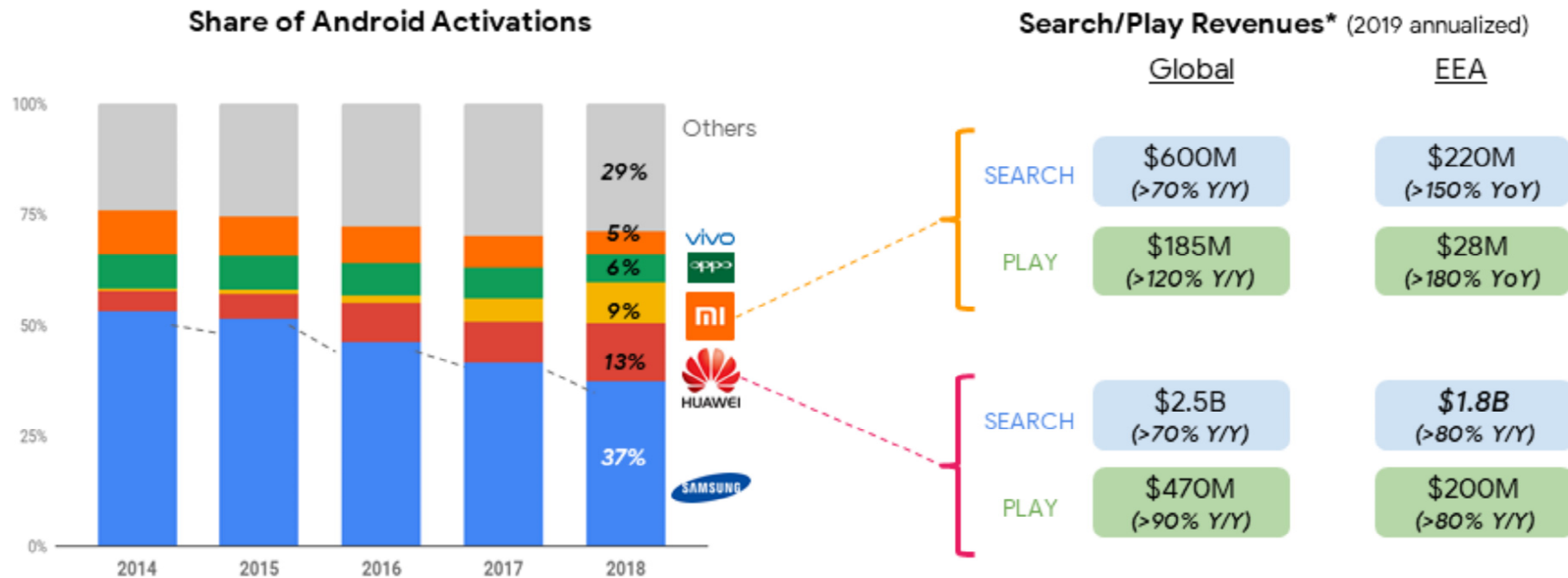
# Clean Android devices still represent a very small (<5%) part of Android Ecosystem

**Scaled Programs Coverage over time**



- 49M, (3.3X y/y)
- 45M, (38X y/y)
- 17M, (1.8X y/y)

Legend: ■ Actives A-Go  ■ Actives A1  ■ Actives GMSE

**RSA Coverage over time**



- 74% (+22 ppt y/y)
- 60% (+5 ppt y/y)

Legend: ■ % Paying Actives  ■ % Paying Activations

- **Android Go:** Growth continues to accelerate, reaching 45M actives (8M Apr'19 actvns). Samsung and Transsion alone account for 45% of these activations, but achieved it in different ways. Samsung offerings were limited to the J2 Core and J4 Core, while Transsion had over 42 distinct models.

- **Android One:** Xiaomi and Nokia continue to be the two most engaged partners; Xiaomi alone represented 48% of 28DAs as of Apr'19. However, recent strength in Nokia's budget and mid-tier lineup (3, 5, 6) enabled it to pull ahead of Xiaomi (0.45M versus 0.38M actvns in Apr'19)

- **GMS Express:** Despite graduation to head OEM status, Transsion remains the dominant GMSE partner, accounting for 52% of 28DAs and 43% of actvns in Apr'19 33
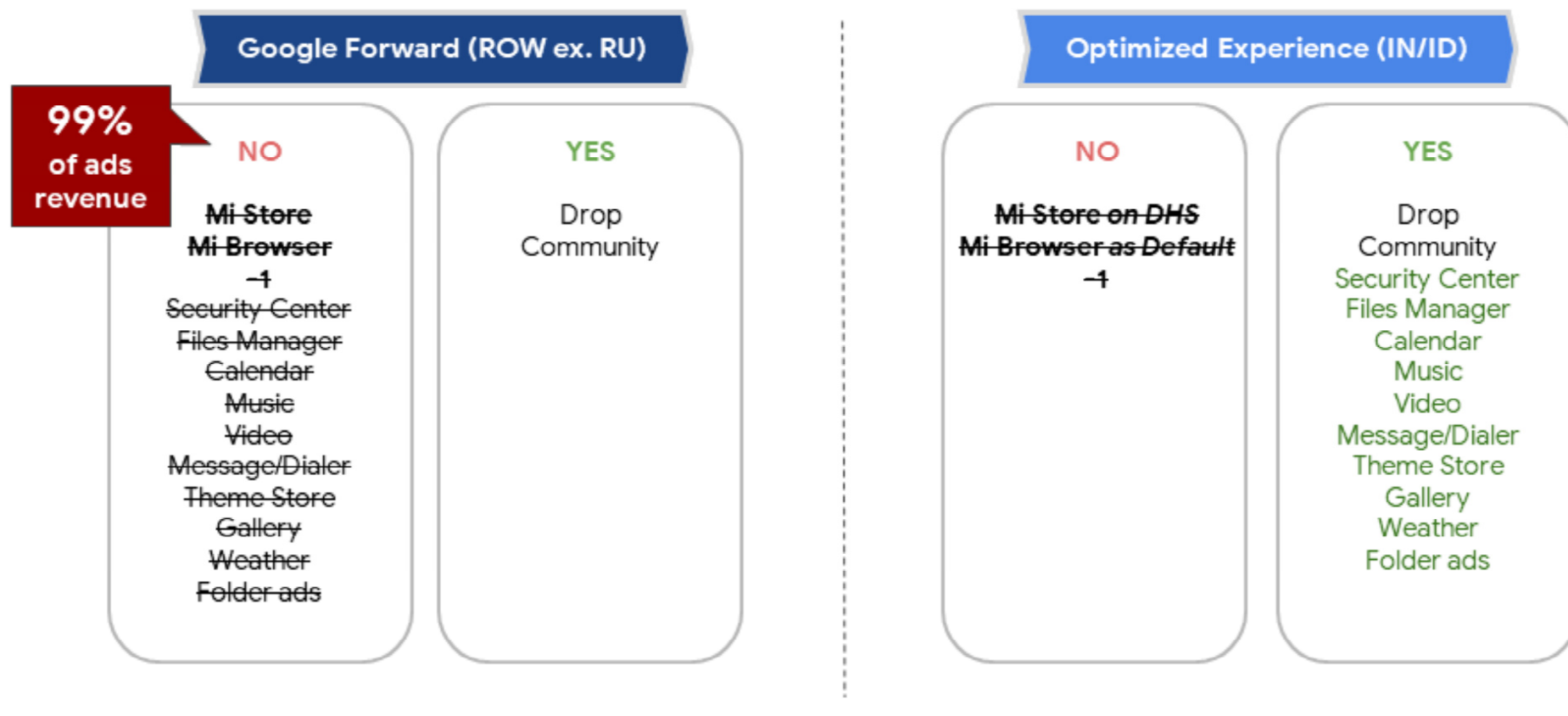
**EXHIBIT 624.R-033**

# Aptoide powered OEM stores see very meaningful traction on Android devices

| Global (ex CN) | Huawei AppGallery | Xiaomi Market (Powered by Aptoide) | Oppo Apps (Powered by Aptoide) | Vivo App Store (Powered by Aptoide) |
|---|---|---|---|---|
| OEMs 28DAU | 233M | 151M | 110M | 68M |
| Store installations | 105M | 134M | 87M | 58M |
| *Install rate %* | *45%* | *89%* | *79%* | *85%* |
| *Usage rate %* | *21%* | *43%* | *33%* | *56%* |
| **Top titles (based on YTD install requests)** | | | | |
| 1 | Fortnite Installer (230K) | VidMate (1.5M) | WhatsApp (1.8M) | WhatsApp (934K) |
| 2 | AliExpress (141K) | Whatsapp (1.1M) | Instagram (1.6M) | VidMate (830K) |
| 3 | Distance Meter (139K) | LIKE Video (1M) | FB Lite (1.5M) | Instagram (685K) |
| 4 | ACR Call Recorder (126K) | FB Lite (1M) | Facebook (1.2M) | FB Lite (510K) |
| 5 | Cut Cut Photo Editor (110K) | Block Puzzle Guardian (1M) | VidMate (900K) | SHAREit (464K) |
| 6 | MP3 Downloader (108K) | HotStar (888K) | TikTok (886K) | Facebook (438K) |
| 7 | Viuclip (57K) | Instagram (825K) | SHAREit (832K) | LIKE Video (406K) |
| 8 | Tubemate (55K) | TikTok (724K) | LIKE Video (657K) | Helo (319K) |
| 9 | Nitro Nation (55K) | Helo (718K) | HotStar (597K) | Truecaller (312K) |
| 10 | Phone Tracker (54K) | JioTV (672K) | Subway Surfers (536K) | TikTok (308K) |

Install rate = % of OEM's 28DAU with store installed; Usage rate = % of lockbox 28DAU that had app open in foreground for at least 3 seconds
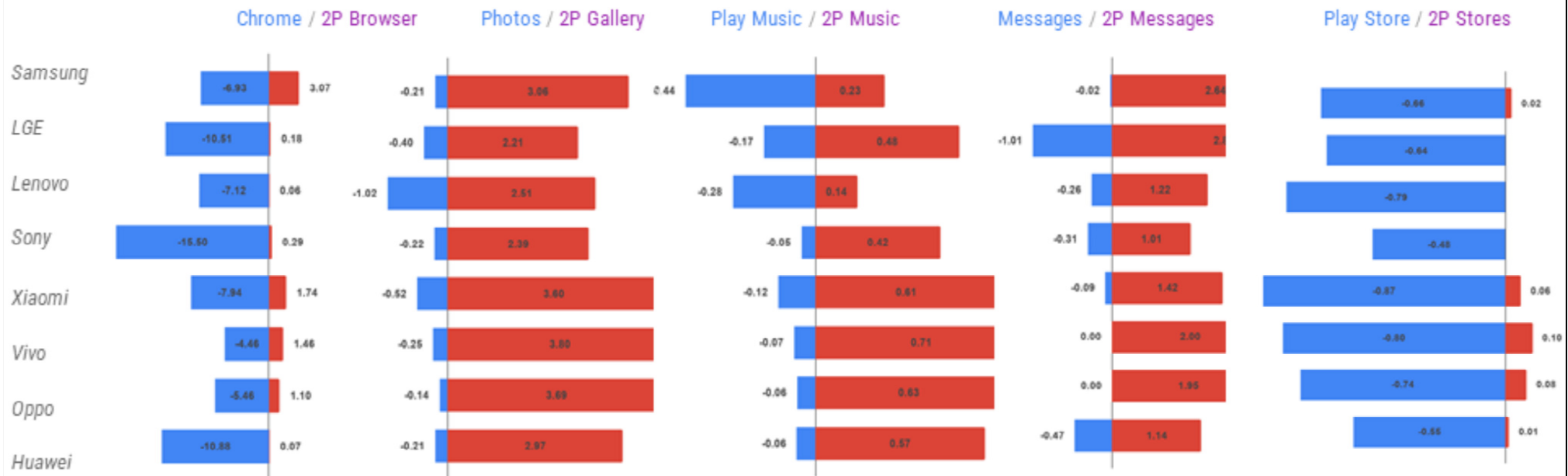
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**EXHIBIT 624.R-034**

# Chinese OEMs have significant overlap with GMS apps and are actively monetizing these apps through ads

**Google Forward (ROW ex. RU)**

**99% of ads revenue**

| NO | YES |
|---|---|
| Mi Store | Drop |
| Mi Browser | Community |
| -1 | |
| Security Center | |
| Files Manager | |
| Calendar | |
| Music | |
| Video | |
| Message/Dialer | |
| Theme Store | |
| Gallery | |
| Weather | |
| Folder ads | |

**Optimized Experience (IN/ID)**

| NO | YES |
|---|---|
| Mi Store on DHS | Drop |
| Mi Browser as Default | Community |
| -1 | Security Center |
| | Files Manager |
| | Calendar |
| | Music |
| | Video |
| | Message/Dialer |
| | Theme Store |
| | Gallery |
| | Weather |
| | Folder ads |

- *Global UI has a team of 400
- *All apps listed are Xiaomi first party

**EXHIBIT 624.R-035**

# Chinese OEM own apps are often getting substantially more traction on their devices than substitute GMS apps



**Mins per Day per 28DA**

| | Chrome / 2P Browser | Photos / 2P Gallery | Play Music / 2P Music | Messages / 2P Messages | Play Store / 2P Stores |
|---|---|---|---|---|---|
| Samsung | -6.93 / 3.07 | -0.21 / 3.06 | 0.44 / 0.23 | -0.02 / 2.64 | -0.66 / 0.02 |
| LGE | -10.51 / 0.18 | -0.40 / 2.21 | -0.17 / 0.48 | -1.01 / 2.1 | -0.64 |
| Lenovo | -7.12 / 0.06 | -1.02 / 2.51 | -0.28 / 0.14 | -0.26 / 1.22 | -0.79 |
| Sony | -15.50 / 0.29 | -0.22 / 2.39 | -0.05 / 0.42 | -0.31 / 1.01 | -0.48 |
| Xiaomi | -7.94 / 1.74 | -0.52 / 3.60 | -0.12 / 0.61 | -0.09 / 1.42 | -0.87 / 0.06 |
| Vivo | -4.46 / 1.46 | -0.25 / 3.80 | -0.07 / 0.71 | 0.00 / 2.00 | -0.80 / 0.10 |
| Oppo | -5.46 / 1.10 | -0.14 / 3.69 | -0.06 / 0.63 | 0.00 / 1.95 | -0.74 / 0.08 |
| Huawei | -10.88 / 0.07 | -0.21 / 2.97 | -0.06 / 0.57 | -0.47 / 1.14 | -0.55 / 0.01 |

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**EXHIBIT 624.R-036**

GOOG-PLAY-004488141.R

# MIUI presents a more cluttered, preload-heavy OOB experience



**Mi A2:** Android One (Pie)

**GMS apps featured**, single Mi folder on home screen

No
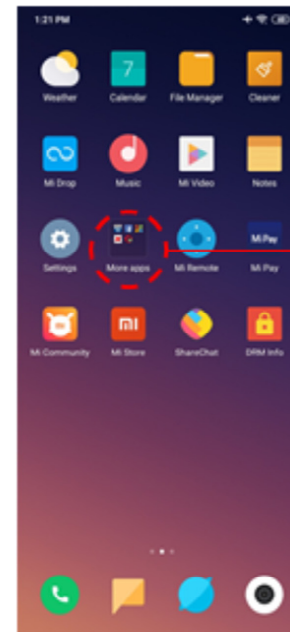Default +1 screen

*Default home screen*

**Redmi Note 7 Pro:** MIUI 10

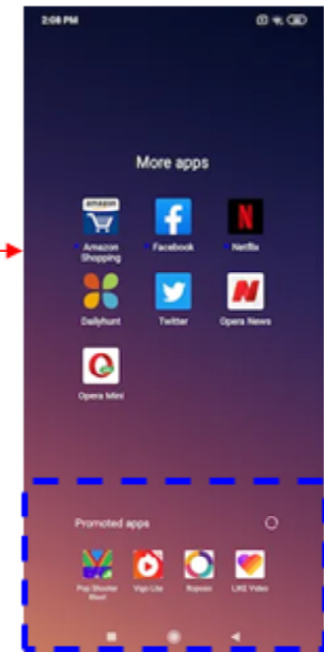Preloaded **Mi Store + Mi Apps** on home screen and +1 screens

**Promoted apps** in home screen folders

*Default home screen*     *Default +1 screen*

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**EXHIBIT 624.R-037**

# Intrusive ads are enabled by default across the MIUI experience
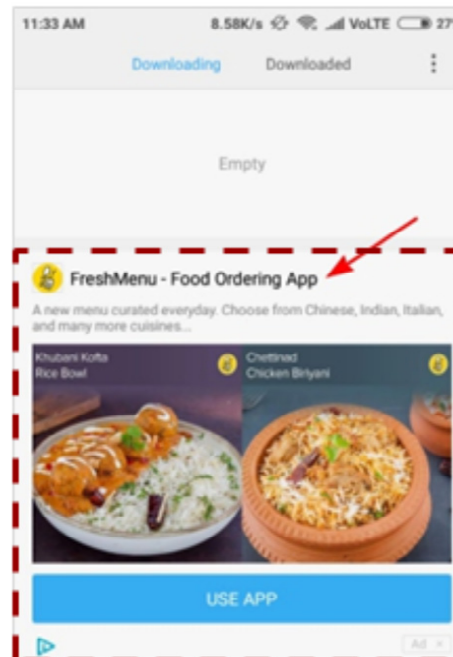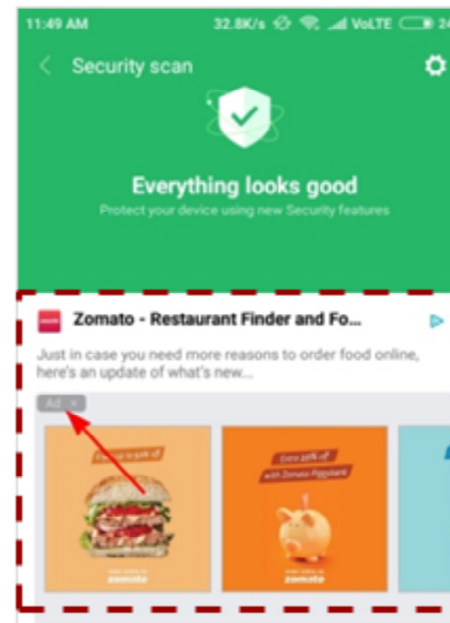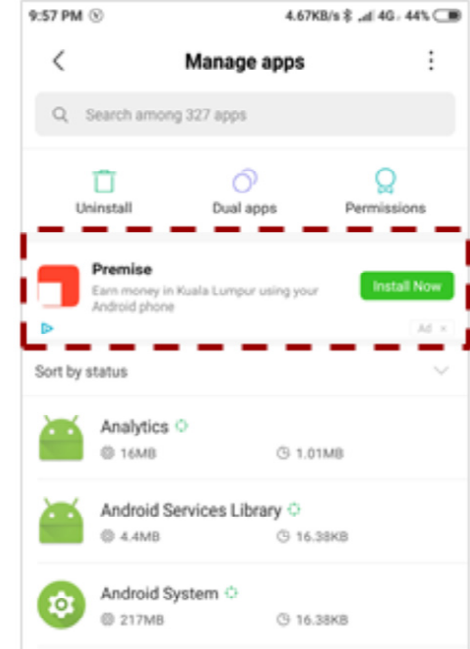


- Ads also show up in MIUI Music app, File Explorer, Home Screen Folders, App Installer
- While there are options to remove the ads, the process is hidden and complex

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**EXHIBIT 624.R-038**

GOOG-PLAY-004488143.R

# Pre-read
## (update on 2016 RSA)

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**EXHIBIT 624.R-039**

# Today: Two core agreements (MADA, RSA) supplemented with an array of subsequent deals & programs

**MADA**

**Non monetary barter.** Access to Google apps in exchange for placement and security updates

**RSA**

**Revenue share (2 tiers).** Premium placement, defaults + exclusivity for Search & Assistant; Feed and Gboard intended, but carved out of most of the devices *(Samsung, HOVX)*

**Other Deals**

**Various (bounties, etc.).** Mostly cover preload gaps and access points not covered by MADA and RSA

In the current world, each partner deals with multiple teams / deals to build an end-to-end view of how to work with Google

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- Introduction to what Android core commercial agreements are, and their basic premise

**EXHIBIT 624.R-040**

GOOG-PLAY-004488145.R

## **Recap:** RSA Deal terms - BC approved (non Samsung) 31/10/16

| | RSA Base tier (device by device) | RSA BONUS tier (OEM ONLY, device by device) |
|---|---|---|
| Preloads | MADA (11 GMS apps) | MADA(11 GMS apps) + Messages *(opt)*, Gboard, Calendar |
| Exclusivity | **Search:** Full exclusivity (DHS in Europe)<br>**Assistant:** DHS + OOB gesture & hotword exclusivity | **Search:** Full exclusivity (DHS in Europe)<br>**Assistant:** DHS + OOB gesture & hotword exclusivity |
| Defaults | MADA (Assistant)<br>**Search:** OEM browser default<br>**Chrome:** Default browser *(optional)*<br>**Apps:** None | MADA (Assistant)<br>**Search:** OEM browser default<br>**Chrome:** Default browser *(optional)*<br>**Apps:** All relevant defaults |
| Placement | MADA (DHS placement for QSB, Play & Google Folder)<br>**Search:** Feed on -1 *(carved out on 70%+ of RSA devices)* | MADA (DHS placement for QSB, Play & Google Folder)<br>**Search:** Feed on -1<br>**Apps:** Duo on DHS |
| Safety | 90d security freshness *(now also covered by MADA)* | 90d security freshness *(now also covered by MADA)* |
| **Consideration** | 10%/20%Search & Assistant ads revenue (OEMs / carriers) | 15% of all Search & Assistant ads revenue |
| **Uptake** | **72% Android activations, 57% actives** | **8% Android activations, 7% actives** |

**EXHIBIT 624.R-041**

# **Recap:** RSA Deal terms - BC approved (non Samsung) 31/10/16



**MADA**

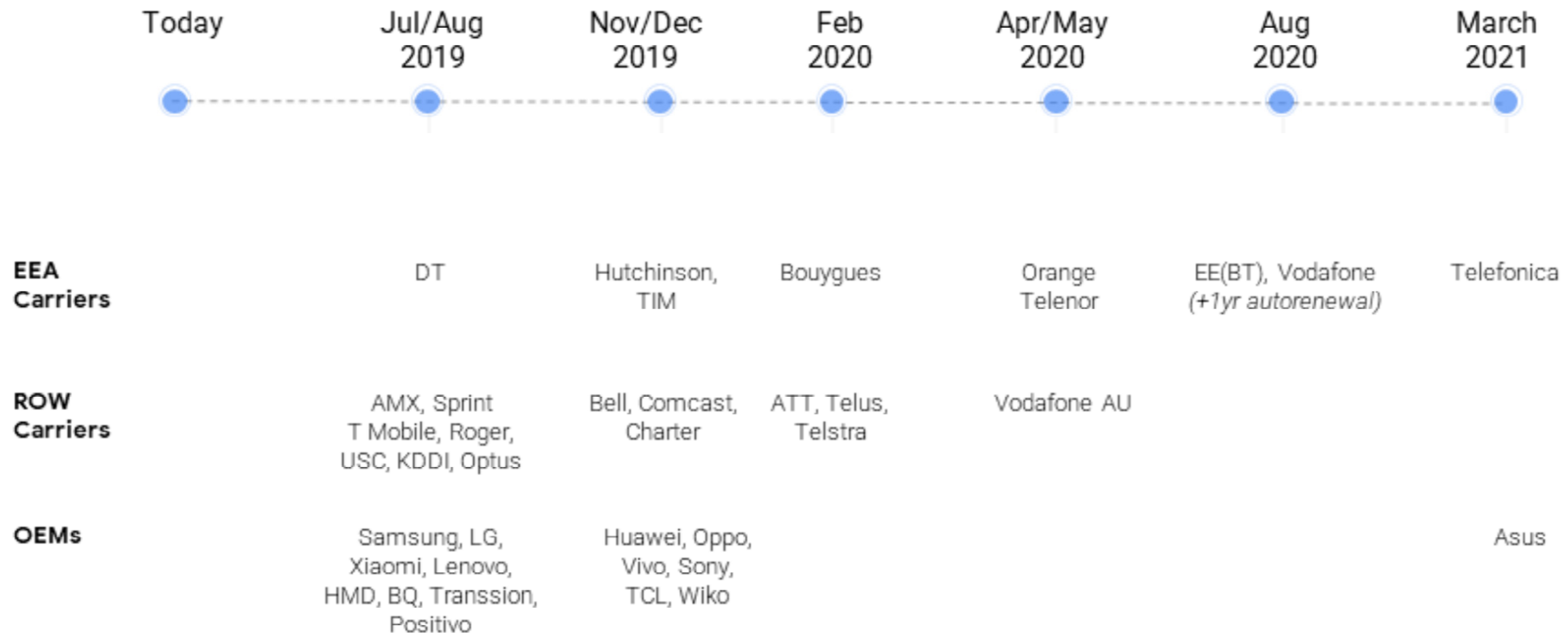**RSA: Base tier**

**RSA: Bonus tier**
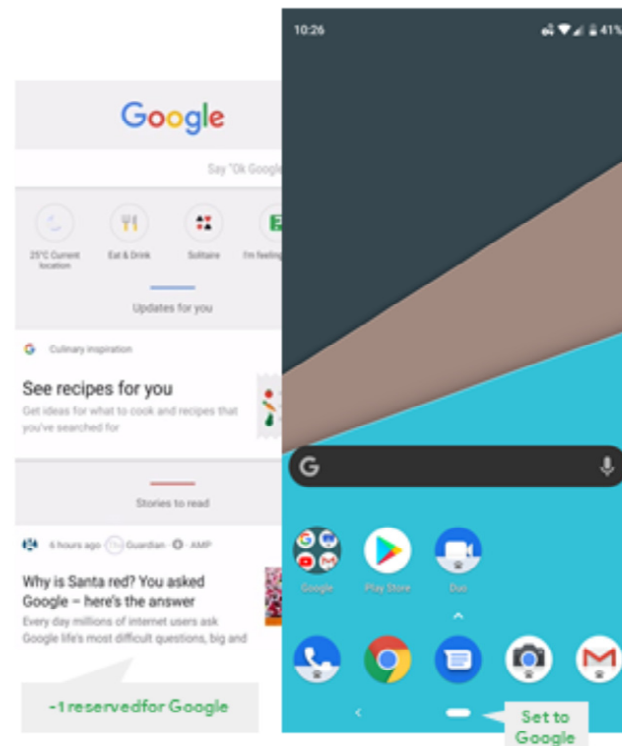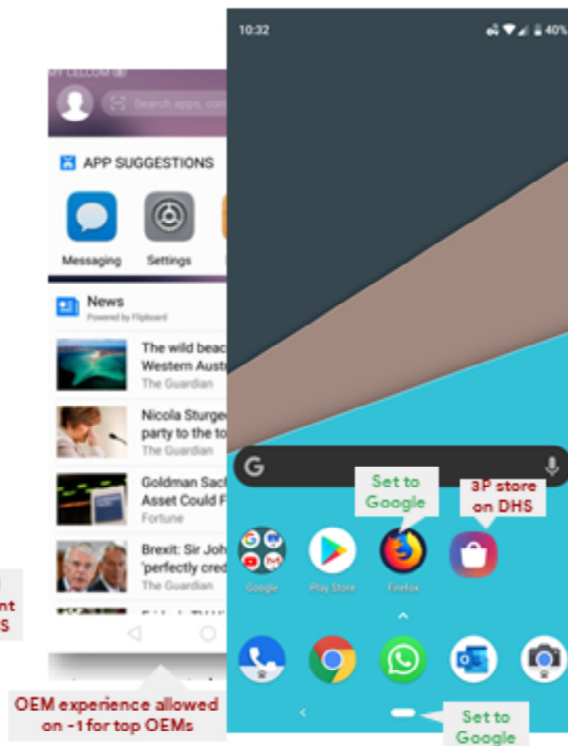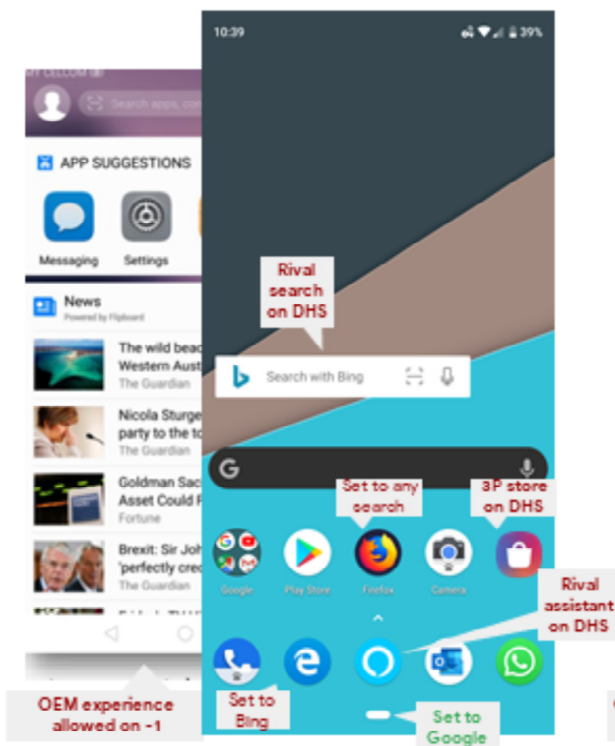
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**EXHIBIT 624.R-042**

# Additional Context: Apps Contractual coverage (excl. Search, Chrome, Play and Assistant)

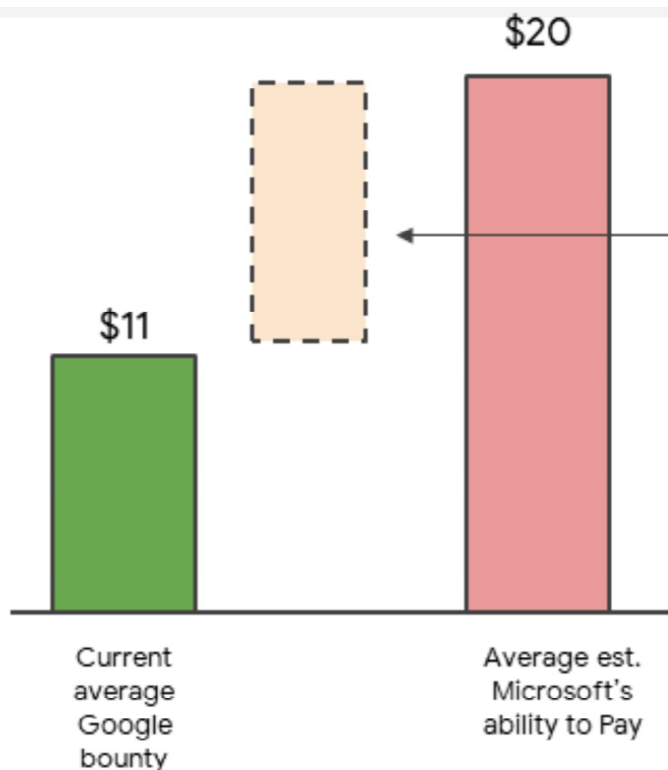| | | MADA | GDAF Core (incremental to MADA) | GDAF Optimized (incremental to Core) | GDAF Google Forward (incremental to Optimized) | Separate distribution deal? | Additional Context |
|---|---|---|---|---|---|---|---|
| | Youtube | preload | - | - | - | - | |
| | Maps | preload | - | - | - | - | |
| | Photos | preload | - | - | default | yes, defaults | Missing some features prioritized by OEMs |
| | Drive | preload | - | - | - | - | |
| | Gmail | preload | - | - | default | - | |
| | Duo | preload | - | - | default | Comms suite, default | |
| | Play Movies | preload | - | - | - | - | |
| | YT (Play) Music | preload | - | - | - | - | |
| | Messages | - | - | - | default | Comms suite, default | Carriers block it in US, JP |
| | Gboard | - | - | default | - | yes, defaults | |
| | Pay | - | - | - | preload, gestures | yes, preload | |
| | Lens | - | - | - | exclusivity, camera integration | under consideration | Amazon has competing app |
| | Calendar | - | - | - | default | - | |
| | Google One | - | - | - | - | yes, preload | |
| | Dialer | - | - | - | default | Comms suite, default | Carriers block it in US, JP |
| | Contacts | - | - | - | default | Comms suite, default | Carriers block it in US, JP |
| | Android Auto | headless APK | - | - | - | - | |
| | Docs/Sheets/Slides | - | - | - | - | yes, preload | |
| | Keep | - | - | - | - | - | |
| | Translate | - | - | - | - | - | |
| | News | - | - | - | preload | yes, preload | |
| | Podcasts | - | - | - | preload | yes, preload | |
| | Shopping | - | - | - | preload | yes, preload | |
| | Play Books | - | - | - | - | - | |
| | Fit | - | - | - | - | - | |
| | Digital Wellbeing | headless APK | - | - | - | - | |
| | Family link | headless APK | - | - | - | - | |
| | Files | preload on Go | - | - | - | - | |
| | Calculator | - | - | - | - | - | |
| | Clock | - | - | - | - | - | |

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**EXHIBIT 624.R-043**

GOOG-PLAY-004488148.R

# RSA Timelines: Current RSA deals starting to expire, giving us opportunity to re-think and optimize the terms

| | Today | Jul/Aug 2019 | Nov/Dec 2019 | Feb 2020 | Apr/May 2020 | Aug 2020 | March 2021 |
|---|---|---|---|---|---|---|---|
| **EEA Carriers** | | DT | Hutchinson, TIM | Bouygues | Orange Telenor | EE(BT), Vodafone (+1yr autorenewal) | Telefonica |
| **ROW Carriers** | | AMX, Sprint T Mobile, Roger, USC, KDDI, Optus | Bell, Comcast, Charter | ATT, Telus, Telstra | Vodafone AU | | |
| **OEMs** | | Samsung, LG, Xiaomi, Lenovo, HMD, BQ, Transsion, Positivo | Huawei, Oppo, Vivo, Sony, TCL, Wiko | | | | Asus |

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**EXHIBIT 624.R-044**

# Pre-read
## *(Europe)*

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**EXHIBIT 624.R-045**

# In EEA: We recommend continuing RSA deals to ensure Google distribution



**$20**

**$11**

Current average Google bounty

Average est. Microsoft's ability to Pay

**<u>Not recommended</u>: Only relying on activation bounty is not a sufficient deterrent to prevent rivals from buying out search exclusivity and browser defaults**

>60% top OEM's revshare comes from EEA. Taking away these funds will further incentivise OEM deals w/ rivals

**Continuing RSA (GDAF) ensures:**

- **Platform tier:** *Negates rival's ability to cherry-pick devices for exclusivity*

- **Browser defaults:** *Continues to secure 3P browsers\**

- **Assistant, Discover and other apps:** *Valuable 'Gets' even in the choice screen scenario*

- **Downside protection:** *Incentive alignment as no payout to partners if Google not chosen by users*

*\* Buyouts of Samsung devices by rivals is deterred due to a large install base of paying devices on RSA. Samsung does not want to risk the ~$1B+ / yr, majority of which is via the install base*
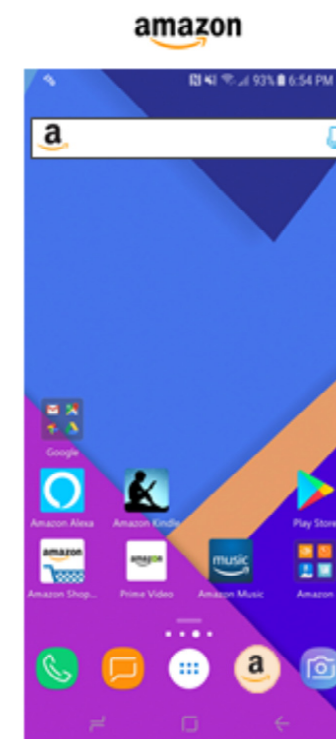
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**EXHIBIT 624.R-046**

GOOG-PLAY-004488151.R

# Worst case scenario: Devices with exclusive rival providers for search, assistant and browser

**MSFT / AMZN distribution:**

- **Search app exclusive on device**

- **Exclusive search widget + icon placement on DHS**

- Competitor launcher set OOB **with all search access points set to competing search service**

- Browser default and **exclusive on device**, with competitor search service as default

- **Assistant icon on DHS** and **enabled** with OOB hotword and gesture

- **–1 screen** controlled by competitor search app / feed
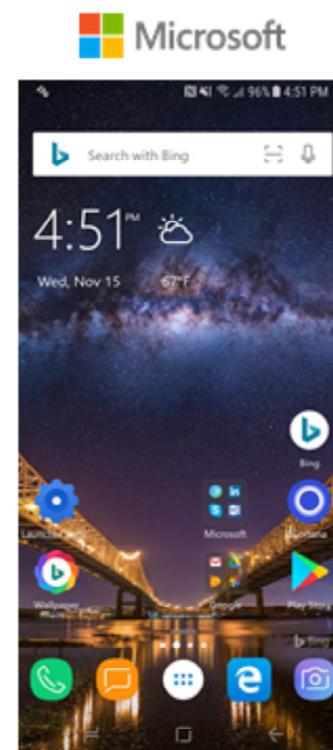


*Estimated average rival offering ->>$20/device*     **$14/device ++**

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EXHIBIT 624.R-047

GOOG-PLAY-004488152.R

# For 3 out of 5 Top OEMs, >50% of their Search Revenue Share comes from EEA

| ($ in millions) | Top 5 OEMs in EEA (by 2018 Revenue) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Global Revenue | | Global Search RevShare | | Search RevShare from EEA | | % Search Rev Share from EEA | |
| | 2018 | Q4 '18 Annualized | 2018 | Q4 '18 Annualized | 2018 | Q4 '18 Annualized | 2018 | Q4 '18 Annualized |
| Samsung | $6,103 | $6,653 | 1,188 | 1,323 | 737 | 826 | 62.0% | 62.4% |
| Sony | $688 | $675 | 110 | 108 | 43 | 43 | 39.2% | 39.7% |
| Huawei | $142 | $402 | 11 | 32 | 9 | 24 | 75.8% | 75.0% |
| LGE | $237 | $230 | 19 | 19 | 8 | 8 | 41.8% | 41.3% |
| Xiaomi | $87 | $182 | 9 | 18 | 5 | 10 | 54.0% | 57.3% |

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**EXHIBIT 624.R-048**

# Details on the GDAF proposal

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**EXHIBIT 624.R-049**

GOOG-PLAY-004488154.R

# GDAF: 3-tiered RSA structure, aiming to give partners more incentives to go all Google while securing key access points

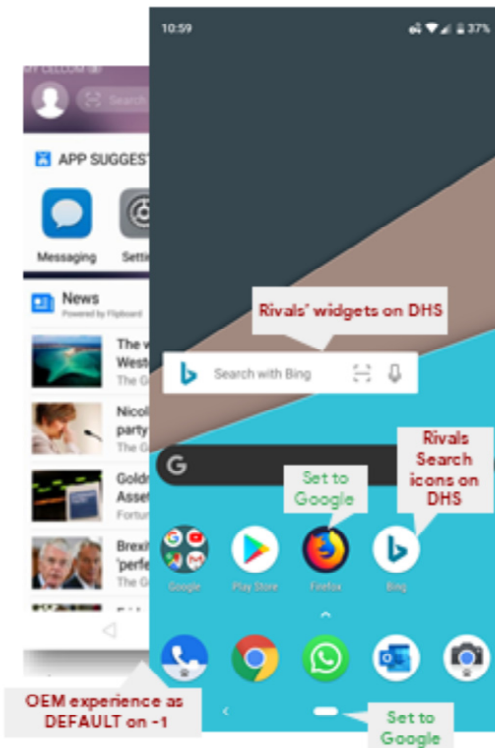| New terms | Core Experience PLATFORM | Optimized Experience DEVICE BY DEVICE | Google Forward DEVICE BY DEVICE |
|---|---|---|---|
| Preloads | MADA | MADA + GBoard | MADA + Google defined payload; Google has approval on all preloads; PAI used |
| Exclusivity | **Assistant:** DHS + OOB gesture & hotword exclusivity | **Search:** Full exclusivity<br>**Assistant:** Full exclusivity | Google exclusivity and defaults for all preloaded apps; use stock Android UI; No apps with APK install rights |
| Defaults | **Search:** No exclusivity<br>OEM browser default<br>**Chrome:** Default browser *(optional)* | **Search:** OEM browser default<br>**Chrome:** Default browser *(optional)*<br>**Gboard:** Default | |
| Placement & Gestures | MADA<br>**Search:** Feed on -1 required (*shared tab with partner default okay*)<br>**Assistant:** Powertap | MADA<br>**Search:** Feed on -1 required (*shared tab with Google default as fallback*)<br>**Assistant:** icon on DHS + powertap | MADA<br>**Search:** Feed on -1<br>**Assistant:** icon on DHS, enhanced integrations (*Google defined payload e.g. dedicated button*) |
| Play | MADA | MADA | Exclusivity |
| Safety & Updates | | | 60d security freshness, last 2 letter updates |

**EXHIBIT 624.R-050**

GOOG-PLAY-004488155.R

**EXHIBIT 624.R-051**

GOOG-PLAY-004488156.R
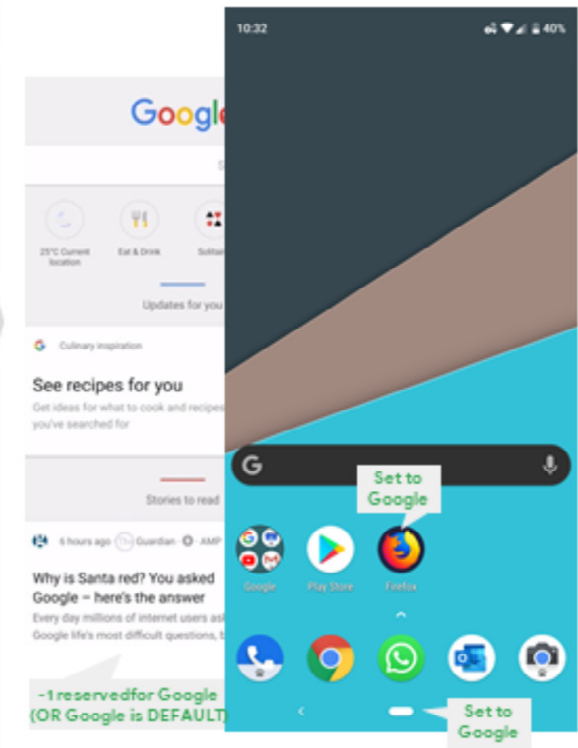
# 1&2: We plan to spend $274M to cover ~$3.8B in key financial risks for Search and Play in addition to current deals

| | Hedged ('23F) | Details |
|---|---|---|
| **1** **Search in 3P Browser** | $0.6B | [High risk/ immediate] Google as 3P browser default could be replaced, exposing **$0.6B of annual Google distribution revenue** (e.g. Bing is already default on some Vivo/Xiaomi devices in India partially contributing to **20% search rev decline in 2018\***) |
| **1** **Search in Europe** | $2.1B | [High risk/ mid term] Without offering further incentive, **rivals can get full exclusivity** for search widgets and browsers exposing **~$2.1B of Google revenue** in '23F (high risk, but Google likely to win some portion back) |
| **1** **Assistant** | 85% of queries | [High risk/ mid term] **Alexa** could be preloaded and deeply integrated (icon on DHS, hotword, hardware affordance – access points that account for **85%+ of Android's Google Assistant queries**). This already happens on **14M Amazon Prime devices** (growing 14% y/y) |
| **2** **Play on CN OEMs** | $1.0B | [High risk/ mid term] With a vibrant CN developer community and heightened geopolitical concerns, there is increased pressure for **Huawei and other CN OEMs to double down on their own app stores** putting $0.7B of Play revenue at risk |

*NOTES: \* Per user search revenue decline also driven users moving search into apps (e.g. video search into Tik Tok) and lower searchiness on non-Chrome (e.g. UC browser)*

**EXHIBIT 624.R-052**

# 3&4: We propose investing $326M in getting 483M devices promoting best Google experience on Android (~$0.7 per device)

**3&4 Strategic Reasons**

- **Aligns rapidly growing CN OEMs with Google** before they pass the pivotal moment in 1P services growth (e.g. Xiaomi generated $125M revenue from 1P services and ads in IN/ID)

- **Promotes Android and Google** by advancing cleaner, more secure, fresher UX

| -50% | System crashes* | +20% | Battery efficiency* |
| +40-50% | GMS app usage uplift | 2x | User NPS scores |

* Xiaomi A-One devices vs. same-spec'ed Xiaomi MIUI devices; **Varies by button.

**3&4 Efficiency**

**Per device** and operational savings** by consolidating standalone bounties:

- **Xiaomi:** GFD is **$0.3 more expensive** than app bounties, but adds Play, Clean UI, Photos, Gmail and Gcal protections

- **LG: $0.6 savings** per device after 2020 (GFD is $0.1 more expensive vs. app bounties until button deal runs out)

- **Other non CN OEMs: ~$0.5 savings per device** (incl. HW button)

**3&4 Additional potential upside**
*(not part of the deal model)*

- **$803M in marketing by carriers** (might require additional 1-2 HC to manage)

- **3-5pts revenue uplift** for Google Forward devices via Search & Play

- Clean devices are **15-20% more likely to attract iOS switchers** (observed in Western Europe)

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**EXHIBIT 624.R-053**

# Per Unit Comparison: Bounties compared to GFWD Portion of Incremental Payment

| | (A) | (B) | (C) = (A) + (B) | (D) | (A) - (D) | (C) - (D) |
|---|---|---|---|---|---|---|
| | Avg App Bounty | Button Bounty | Total App and Button Bounty | GFWD Portion of Incremental Pmt Per Unit in 2020 | Savings from apps only in GFWD | Savings if we can get the HW button in GFWD |
| Xiaomi | $0.88 | $0.40 | $1.28 | $1.18 | -$0.29 | $0.11 |
| Sony | $0.31 | $1.00 | $1.31 | $0.84 | NA | $0.47 |
| Lenovo | $0.19 | $0.70 | $0.89 | $0.23 | NA | $0.66 |
| LG | $0.45 | $1.00 | $1.45 | $0.54 | -$0.09 | $0.59 |
| HMD | $0.12 | $0.53 | $0.65 | $0.12 | $0.00 | $0.53 |

Likely deal

Likely deal

Additional "gets" are Clean UI, Play Protections, Letter Upgrades, GMail, GCal

Play included

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- Other OEMs includes rampdown from Huawei RSA devices

**EXHIBIT 624.R-054**

GOOG-PLAY-004488159.R

# Why: converting MIUI devices to a cleaner, fresher, and more secure UI also improves UX through fewer crashes and better battery

| | Device | Mean time between failures[1] (days) | System crashes per device-day | Projected battery hrs per 1000mAh | System jank rate %[2] |
|---|---|---|---|---|---|
| **Android One** | Mi A1 | 126 | 0.8-1.0% | 6.5 | 0.22% |
| | Mi A2 | 299 | 0.4-0.5% | 6.5 | 0.19% |
| | Mi A2 Lite | 150 | 0.6-0.8% | 7.6 | 0.23% |
| **MIUI** | Redmi Note 4 (A1 peer[3]) | 93 | 4-4.5% | 6.0 | 0.20% |
| | Redmi Note 5 (A2 peer[4]) | 50 | 1.5-2.0% | 5.4 | 0.16% |
| | Redmi 6 Pro (A2 Lite peer[5]) | 101 | 0.6-0.8% | 6.9 | 0.17% |
| | A-One average | 190 | 0.6-0.8% | 6.8 | 0.21% |
| | MIUI average | 80 | 2.0-2.5% | 6.1 | 0.18% |

Source: Android Device Health dashboard.Data for latest/most popular builds of devices with sufficient data for April 2019 period
1.Device MTBF can be higher than length of time in market as MTBF is projected from crash rates from active devices. 2. Average of System UI and System apps jank rates
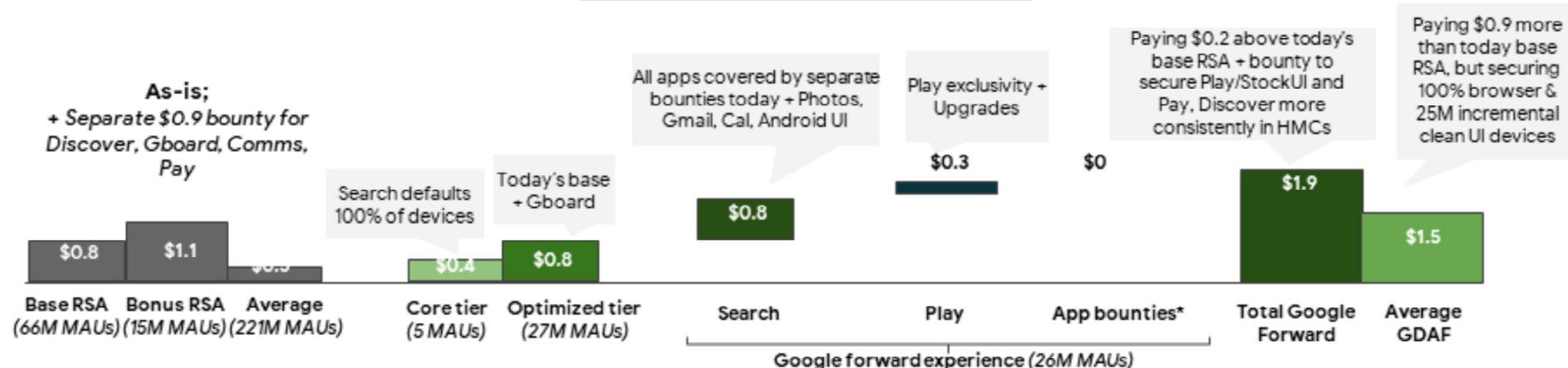3. Note 4 has same display, chipset, RAM as A1 but with bigger battery. 4. Note 5 has slightly worse processor, similar RAM, bigger battery vs. A2. 5. Redmi 6 Pro has same specs as A2 Lite

- 13% Play and 17% Search growth for rest of ecosystem

**EXHIBIT 624.R-055**

# So how do partner economics work?
## (Illustrative Example: Xiaomi in 2020)

### Per unit Payout (over 2yr lifetime)



Paying $0.2 above today's base RSA + bounty to secure Play/StockUI and Pay, Discover more consistently in HMCs

Paying $0.9 more than today base RSA, but securing 100% browser & 25M incremental clean UI devices

All apps covered by separate bounties today + Photos, Gmail, Cal, Android UI

Play exclusivity + Upgrades

**As-is;**
*+ Separate $0.9 bounty for Discover, Gboard, Comms, Pay*

Search defaults 100% of devices

Today's base + Gboard

$0.3

$0

$1.9

$0.8

$0.4   $0.8

$0.8

$1.5

$0.8   $1.1   $0.5

| Base RSA (66M MAUs) | Bonus RSA (15M MAUs) | Average (221M MAUs) | Core tier (5 MAUs) | Optimized tier (27M MAUs) | Search | Play | App bounties* | Total Google Forward | Average GDAF |

Google forward experience (26M MAUs)

### Overall Payout

| (in millions) | 2019E | 2020F | 2021F | 2022F | 2023F |
|---|---|---|---|---|---|
| Status Quo (just RSA) | $33.8 | $61.4 | $89.4 | $114.7 | $126.1 |
| GDAF Incremental Search | $0.5 | $9.3 | $15.5 | $17.8 | $18.5 |
| GDAF Incremental Play | $0.0 | $3.9 | $13.2 | $27.5 | $36.6 |
| *RSA Actives* | 3 | 57 | 170 | 282 | 314 |
| *Total OEM Client ID Actives* | 170 | 221 | 268 | 298 | 314 |

*App bounties would include: $0.5 for Feed; $0.08 for News; $0.08 for Podcasts; $0.11 for Gboard; $0.05 for Pay and $0.06 for Comms*

**EXHIBIT 624.R-056**

# Work in Progress / Graveyard

**EXHIBIT 624.R-057**

**ALTERNATIVE 1**

# Search & Play revenues are top priority for Google forward tier
*All gets incremental to Optimized tier; Google can update asks during the deal*

| *Prioritization logic* | **Must have** | **Negotiable / Fallbacks** |
|---|---|---|
| **[P0]** Secure and grow **Search and Play revenue** | **Search:** exclusive Feed on -1<br>**Play:** DHS exclusivity | **Play:** Full exclusivity; Play FOP setup in OOB experience  `Pay less`<br>**Search & Play:** Letter upgrades |
| **[P1]** Make the **Assistant** more helpful | **Integrations:** BOM-neutral physical affordance, lockscreen integration<br>**Apps:** Gmail, Calendar default | **Integrations:** Dedicated button |
| **[P1]** Create cohesive **phone experience** | **Apps:** Messages default (in geos where it's possible); GPay preload<br>**UI & 3rd party apps:** No duplication for GMS apps + Google approval | *Substitute with other asks*<br>● Rest of Comms Suite<br>● Additional GPay integrations<br>● Default for Photos<br>● Camera integrations incl. Lens<br>● Preload of News, Podcasts |

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**EXHIBIT 624.R-058**

GOOG-PLAY-004488163.R

# Additional Context: Apps Contractual coverage (excl. Search, Chrome, Play and Assistant)

| | | MADA | GDAF | Separate distribution deal? | Additional Context |
|---|---|---|---|---|---|
| | Youtube | preload | - | - | |
| | Maps | preload | - | - | |
| | Photos | preload | default | yes, defaults | Missing some features prioritized by OEMs |
| | Drive | preload | - | - | |
| | Gmail | preload | default | - | |
| | Duo | preload | default | Comms suite, default | |
| | Play Movies | preload | - | - | |
| | YT (Play) Music | preload | - | - | |
| | Messages | - | default | Comms suite, default | Carriers block it in US, JP |
| | Gboard | - | default | yes, defaults | |
| | Pay | - | preload, gestures | yes, preload | |
| | Lens | - | exclusivity, camera integration | under consideration | Amazon has competing app |
| | Calendar | - | default | - | |
| | Google One | - | - | yes, preload | |
| | Dialer | - | default | Comms suite, default | Carriers block it in US, JP |
| | Contacts | - | default | Comms suite, default | Carriers block it in US, JP |
| | Android Auto | headless APK | - | - | |
| | Docs/Sheets/Slides | - | - | yes, preload | |
| | Keep | - | - | - | |
| | Translate | - | - | - | |
| | News | - | preload | yes, preload | |
| | Podcasts | - | preload | yes, preload | |
| | Shopping | - | - | yes, preload | |
| | Play Books | - | - | - | |
| | Fit | - | - | - | |
| | Digital Wellbeing | headless APK | - | - | |
| | Family link | headless APK | - | - | |
| | Files | preload on Go | - | - | |
| | Calculator | - | - | - | |
| | Clock | - | - | - | |

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**EXHIBIT 624.R-059**